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Original Correspondence.

RISCA EXPLOSION, AND MR. STRUVE'S VENTILATOR.

SIR,—I am not an advocate for machine ventilation, yet I think great credit is due to Mr. Struve for his invention of the apparatus for the ventilation of mines. I beg to say I think such apparatus should not be fixed at the top of the upcast to pump or draw air from the mine, but fixed to propel air into the mine; because gas in the strata is pent up therein by the great pressure of the air which passes through the workings; therefore, to diminish this pressure gives place to a sudden outlet of gas the moment the said pressure is reduced. By this, if a stoppage in the intake passage should occur to prevent the current from passing, every stroke which the ventilator takes only diminishes the pressure from the compressed gas, by which the said gas is allowed to expand, and overflow all the parts wherein it is compressed. Therefore, it will be seen that the ventilator, by constant working, pumps out the air between it and the stoppage. There is no fresh supply of air can rush in to occupy the place of that air pumped out; every stroke the ventilator takes diminishes the amount of air, a larger quantity of gas accumulates, and in a few moments the whole employed in the mine are suddenly lost by an explosion of fire-damp. It is not for me to say such was the case of the great loss of life at Risca, yet I think it quite possible it may have been the cause, as stoppages were found in the air-passages, and had to be removed to get out the men beyond them. I may add there is no mode of ventilation that could prevent this taking place under such circumstances, unless several outlet air-passages were from the downcast around the works to the upcast. By propelling air down into the mine a sudden outlet of gas could not take place, as it would do if air were pumped out, because every stroke of the ventilator makes the pressure of the air greater between the stoppage and the said ventilator, by which the pent up gas becomes more compressed, and allows time for the men to escape danger. If any person better informed would give his opinion on the above subject, no doubt it would be very interesting to the mining public, and may prevent loss of life in future.

WILLIAM HORTON.
St. Helena, March 11.

VENTILATION OF COAL MINES.

SIR,—In last week's Journal, Mr. M. B. Gardner reviews some of my calculations as to the horse power of the ventilating engines at Risca. The effective power of this engine, according to Templeton's rule, is as follows:—Diameter of cylinder, 18 in.; pressure of steam, 40 lbs. per square inch; speed of piston, 150 feet per minute; and 7-10ths of the product would equal 32.38-horse power. I make the nominal horse power nearly the same as Mr. Gardner—46.26. But as this engine seemed to me to work with ease and precision, I only allowed 44-horse power for friction, &c. No doubt Mr. Gardner will allow that some power is necessary to cause a movement in a mass of inanimate matter. The remainder of the power is easily accounted for in the same way in causing the machine to move up and down. As for the loss of 11,000 cubic feet of air, this is due, probably, to both causes that Mr. Gardner alludes to, but mainly to the former, I believe. I think the valves of the machine were in good condition when I was at Risca.

The pressure of 4 inches of water was at the machine, and should include, as Mr. Gardner says, the whole of the resistance in the mine, and I have assumed it as such; but instead of making the power necessary to overcome this resistance 28-horse, as Mr. Gardner does, I make it 304-horse power—area of cylinder \times pressure per square foot— 20.8×96 feet; velocity of pistons per minute— $33,000=3079$; and, as before stated, we know that to cause a movement in a large mass of matter like this, let it be ever so accurately fitted, it takes several horse power to do it. I still think it to be the most powerful mode of ventilation we have, but there are objections connected with the machine that cannot be easily, perhaps, done away with—the numerous moveable parts belonging to it.

Brendon Hills, Somerset, March 12. MORGAN MORGAN.

RISCA EXPLOSION—THE EVIDENCE.—No. III.

SIR,—Next, Mr. CHARLES ANDERSON HARRISON. As I did not give the dimensions of the several headings and main air-ways in my report, it may be interesting to the public to have them set before them, as Mr. Harrison has positively sworn to the sizes of several, and the velocity of the air passing through the slope, headings, windroads, &c. Now, the area of first main intake, at first turn from bottom of pit, is 48 ft., the width at bottom being 9 ft. 4 in., top 6 ft. 8 in., height 6 ft.; 37,000 cubic feet of air was passing here per minute on the morning of the explosion—velocity 12 ft. 10 in. per second. Size of engine slope, or main intake, 11 yards below bankhead—10 ft. 7 in. wide \times 4 ft. 7 1/2 in. high—49 ft. area—velocity of air 12 1/2 ft. per second. Size of slope where the air was registered 4 ft. 9 in. \times 4 ft. 4 in., ditto 6 ft. 10 in. \times 5 ft. 4 in.—57 ft. area; this is the largest place I could see there—velocity here 11 ft. per second. Size of slope a little above No. 3 west, width of top 5 ft. 11 in., bottom 3 ft. 6 in., height 6 ft. 4 in.—45 ft. 6 in. area; and if we deduct the area of the loaded trams which are passing and re-passing all day, say 7 1/2 ft., this will reduce the actual area to 38 ft.; it must also be remembered that the engine draws the loaded trams against the intake current, therefore this would also tend to reduce the quantity passing into the workings. As represented at the inquest, there were but 34,000 cubic feet of air passing into this part of the slope on the morning of the explosion; 3000 cubic feet being used as a scale in No. 1 cast; this would give the air a velocity of nearly 15 ft. per second; and Mr. Harrison swore that the smallest place in the slope was 59 ft. area, and velocity of air 10 ft. per second. Actual size of the timber, as they were framed in No. 4 east level heading, main intake (where Harrison swore that 19,000 cubic feet of air per minute was passing on the morning of the explosion), width of top 3 ft. 10 in., width of bottom 6 ft. 10 in., height 5 ft. 10 in. 31 ft. area—velocity 10 1/2 ft. per second. Size of main level windroad, between Nos. 3 and 4 cross-headings, driven parallel with the last level, 5 ft. 4 in. \times 6 in.—22 1/2 ft. area—the velocity here would equal 14 ft. per second; this work is quite new, and Mr. Palmer pointed it out to me as a fair average of the rest. East main return, about 30 yards inside of separation-door, size 5 ft. 4 in. \times 5 ft.—26 ft. 8 in. area; now this ought to discharge 22,000 cubic feet per minute, at the same temperature as the descending current, but as the air passes by men and horses at work it would increase the temperature, say, from 47° to 70°, thereby the air would augment in volume to about 23,000 cubic feet per minute, therefore this velocity would equal 14 1/2 ft. per second. Again, west No. 3 main intake level, size at bottom 6 ft., top 4 ft. \times 5 ft. 10 in. high—29 ft. area; this is the actual size the timber is framed. Now, it was sworn that 15,000 cubic feet were passing here on the morning of the explosion; this would equal nearly 9 ft. 3 in. velocity. Main level windroad, between Nos. 2 and 3 cross-headings, size 4 ft. 3 in. \times 2 ft. 7 in.—11 ft. area—the velocity here would equal 22 1/2 ft. per second; by passing through such places as this with a lamp the flame would be blown through the gauge by the velocity of the air. Main return by No. 1 level heading west, 5 ft. \times 3 ft. 10 in.—19 ft. area, giving a velocity of upwards of 13 ft. per second. All the foregoing dimensions of slope, headings, air-ways, &c., I consider to be as they were prior to the explosion. Some of these have been opened for years, and are likely to alter but little, if any, in size during two months' time; but when Mr. Harrison was hard pressed by respectable witnesses proving that the works were not so bad for heating as represented by him, he actually said that the ground was sucking 1 ft. in twelve hours. If this were the case, it would take a greater number of men to keep the windroads in Black Vein pit open than they had colliers in the pit. Mr. Harrison also swore that the level windroads, level headings, and cross-headings were 7 ft. \times 6 ft.—42 ft. area, and that the velocity of the wind passing through the whole of the workings was 7 1/2 ft. per second. This seems to me very strange, as I find the area as low as 11 ft. and 19 ft., and the velocity as high as 15 ft. or 22 1/2 ft. per second in some places, with the same quantity of air passing through, as he admits himself; and as for the spout-holes that Mr. Harrison swore were 6 ft. \times 4 ft., Thomas Phillips swore he was never told by anyone what size they ought to be made; he thought they were driven about 4 ft. square, and may be a little more or less.

Then comes Mr. Harrison's remarkable account about the ventilating machine. First of all, Mr. Brough, the Government Inspector, asked him to describe the mode of ventilation. He did so, by stating that the cylinder was 18 in. diameter, 6 ft. stroke, and going 3 strokes per minute, thus displacing a quantity of air equal to 51,000 cubic feet per minute. Mr. Brough replied that it was not so much, it was only 48,858. The witness, however, said that the minor quantity was caused by the leakage of the valves; when in reality he had made a mistake of 6 in. in the diameter of the cylinders—18 ft. 6 in., instead of 18 ft., which exactly accounts for the difference. And, again, Mr. Harrison swore that previous to the explosion the water-gauge only indicated 6-8 in. to 7 1/2 in. of water. Now, as 6-8 is the 1/4 of 3 in. (the drag registered by the water-gauge the day I tried it), and as the power necessary to exhaust double the quantity of air is as the square of the velocity, four being the square of two, it is evident that on the day I tried the drag the machine, according to Mr. Harrison's theory, had to bear a strain equal to a power that would exhaust double the quantity of air that he registered on the morning of the explosion—37,000 times 2 = 74,000 cubic feet per minute. If this be correct, surely Mr. Brough has no need to fear of the machine ever giving way by exhausting an additional quantity of air through the workings. It appears that when the explosion happened, that instant the ventilating machine started at the rate of 11 to 12 strokes per minute. The engineer in charge was astonished. Now, I do not know of a more positive proof than this that the machine was having its air through the workings with much greater ease after the explosion happened than before, or what was the cause of this increased speed? But those gentlemen wanted to prove that on account of the machine drawing its air through short cuts when I was there it added to the drag. It appears to me that nothing more objectionable could be resorted to than allowing the machine to go at this rate, if we consider that the explosion east and west happened at the extreme ends, or nearly so, and if the viewer only knew that the result of an explosion is the instant conversion of carbon into carbonic acid, and hydrogen into water, and that an immense quantity of small particles of coal are floating about like soot in the neighbourhood of the explosion, which would make the air quite poisonous to inhale. Not only was the mode of ventilation primitive, but the form in which the workings were laid out was quite a novelty to me; such a labyrinth of inextricable zig-zag windings I never before saw, and I question whether any colliery in the world can come up to it on this scale. I confess I do not know of any figure or figures in geometry that would convey an adequate idea of the irregular shapes and forms in which the headings and stalls are worked.

In conclusion, I beg to say that it is far from my wish to contradict the assertions of any gentleman; but as my own veracity would have been doubted had I not done so, I consider this sufficient justification upon this point. I was summoned altogether against my inclination to report and give evidence on this unfortunate affair; but I made up my mind when I left home that the truth, and nothing but the truth, should be told by

me, as I consider it a justice to the dead, and a duty to the living, that things should be represented to the public and scientific men in their true colours, well knowing that the latter class of useful men to the community ponder their brains night and day to find a remedy for such disastrous evils; and when things are represented to them wrongly it is enough to make them give up their task as hopeless.

The Editor will please accept my thanks for the insertion of this protracted statement; and that it may bring forth fruit beneficial to mankind is my earnest wish.

[We have felt compelled greatly to curtail this statement of Mr. Morgan, reserving, however, every point of general interest, as being too reflective on the professional competence of Mr. Harrison. The unhappy calamity is too much deplored, and the enquiry into the cause was too searching, to allow of blame being now attached to any person who may, unfortunately, have been engaged at the colliery when the explosion occurred.—Ed. M. J.]

COLLIERY INSPECTION, AND THE TRUCK ACT.

SIR,—The working colliers seem to me to be altogether overrating the power given them by the 28th clause of the new Coal Mine Inspection Act, which provides that "the wages of each and every person employed in any coal mine, colliery, or ironstone mine, shall be paid to him, or his representative authorised or deputed to that effect by his immediate employer, in money, at an office to be appointed for that purpose in the special rules for such mine or colliery, and such office shall not be contiguous to any house where spirits, wine, beer, or other spirituous liquors are sold; and every owner, or agent, or such employer who shall pay or permit any wages to be paid contrary to the provisions of this Act shall for any such offence be liable to a penalty not exceeding 10l." Taking the words of this clause, and considering them alone, they declare that it is illegal for a master to make the deductions which even the Truck Act has always permitted to be made. For my own part, I shall continue the customary deductions until it be proved that the clause in question over-rides the Truck Act altogether, or until some one, really qualified as a lawyer to give an opinion, declares that I am wrong. I have seen from your Journal that Mr. Tapping has given his attention to the subject, and I think that the coalowners generally would thank him for his opinion, and, no doubt, both masters and men might be saved litigation expenses. I purchased Mr. Tapping's book, thinking I should find the matter sufficiently explained there, but he does not say how it stands.

I find the clauses in the Truck Act authorising the deductions, but I want to know whether they continue in force, and are to be taken as exceptions to the 28th clause of the Inspection Act now in force?

COAL OWNER.

THE BESSEMER PROCESS IN INDIA.

SIR,—In the *Engineer* of March 2 I observe that there is inserted a gigantic puff, extracted from the *Madras Examiner* of Dec. 22, 1860. I find therein that the late Mr. Heath is mentioned, as I think, in very slighting terms. Mr. Heath having been the intimate friend of my late father, I shall endeavour to correct the unfounded statement in the *Madras Examiner* as to Mr. Heath's competency to carry out the manufacture of iron in India. Mr. Heath was never remarkable for his mechanical or metallurgical attainments; but, as a practical man, he undertook and carried out successfully the manufacture of iron and steel in a tropical climate, and in the face of difficulties which few men have ever successfully contended with. He was emphatically the man who was suited to carry out the practical development of a new system of manipulation, and as long as the manufacture of iron in India was under his control the iron itself, and the steel produced from it, were alike of unrivalled excellence. That they were not properly appreciated at the time was no fault of Mr. Heath's. When the control of the iron manufacture passed out of Mr. Heath's hands the quality of the iron degenerated, and to such an extent has this falling off in the quality taken place that I can at this time name at least 20 works in England producing coke pig-iron worth intrinsically more than the Indian charcoal pigs of the present day. As to the success of the Bessemer process in India, time will show. I made steel from the Indian iron by the pneumatic process before Mr. Bessemer had made any steel at all; and the ingots I made were drawn out, and were not merely soft steel, but were produced at will either hard or soft, whichever were required. Like all steel, however, produced by the pneumatic process, this steel was defective, and quite unsuited for the purposes to which cast-steel is usually applied. This steel may answer, and be employed when no other can be had, just as a ship may sail under jury masts when no better can be obtained. Mr. Bessemer did not astonish the world by exhibiting specimens of his cast-steel, &c., when he read his memorable paper at Cheltenham. This cast-steel was at that time in nubibus, and existed only in the ardent imagination of the orator, or in the gullible minds of his audience. Cast-steel was first made under the pneumatic process by myself, and by the Ebbw Vale Iron Company, under my advice and directions. The beautiful economy of the pneumatic process is simply this:—It wastes from 12 to 25 per cent. of a first-class iron, in order to produce a fifth or sixth-rate steel, and it is notorious that the only tolerable steel made by the pneumatic process is made by remelting the inferior semi-steel, or crude steel, which results from the direct operation. I should wish every inventor to have his due share of credit for what he may have achieved; and I, therefore, take this opportunity of stating that previously to the date of the Bessemer process, and before I had even an idea upon the subject of the pneumatic process, Joseph Gilbert Martien had, at the Ebbw Vale Iron-works, carried the pneumatic process into effect; and, as Mr. Thos. Brown informed me, in the presence of himself and the agents of the Ebbw Vale Iron Company. This appears to be the age of reckless puffing of steel and iron inventions, and thus we read in the *Taranaki Gazette* of cast-steel about to be produced for 2l. per ton in unlimited abundance at Taranaki. Before this overwhelming announcement, of course, all other processes, present or to come, must knock under, and even the marvellous doings in India are thrown into the shade.

Coleford, March 12. ROBERT MUSHET.

NEW AND UNLIMITED POWER.

SIR,—In your excellent Journal of March 17, 1860, there appeared an announcement from me of a new application of certain gases, generated at iron smelting-works to an enormous extent, and at many of such works dissipated as a waste, by a proper and scientific use of which gases an enormous amount of motive-power may be readily obtained. "The wealth and power of this country (quoting from the letter above referred to), which have been produced by the invention of the steam-engine, are, in a manner, beyond calculation: without, however, entering into the relative merits of that hitherto unrivalled power—a power which it has never been imagined could have a competitor—a power which certainly never will be entirely superseded—I think I may venture to say that the invention, or application of the new element of force, to which I would invite public attention, will not only equal that gigantic power, but actually surpass it in effects produced more than twenty-fold. The cost of machines for originating this new power will be considerably less in both weight and value than an equal amount of power derived from steam; there being no boilers required in this case, and, consequently, boiler explosion could never take place, neither would engine-houses and stacks be necessary. The power will be originated from the atmosphere, and to the extent of ten pounds pressure on a square inch of surface (the usual available power of Bolton and Watt's condensing steam-engine), and limited only by the capacity of the machine employed and the amount of motive element made use of.

My attention has been drawn to this subject from the perusal of an announcement in the *Journal* of Saturday, the 9th inst., headed "Pumps Superseded," a contrivance for which the inventor (Mr. Robert Nelson, of Liverpool) claims the most enormous power; the principle being the combustion of volatilised hydro-carbons to produce a vacuum, into which water is to be raised. Here we have *Brown's gas* or *vacuum engine* again resuscitated, and which will doubtless soon have its great merits more fully developed and appreciated than in the days of its infancy. That Mr. Nelson's "hydrocarbon" from *naphtha*, &c., will generate an efficient motive-power, in the manner he describes there can exist no rational doubt; but the cost of the power so generated would be at least 20 times greater than an equal amount of power to be obtained by the combustion of the gases mentioned in the letter of mine above referred to—i.e., about 1d. per horse-power per day. Mr. Nelson's apparatus and mode of operation appear to be the same in principle, but with some trifling alterations in construction and working to that of Mr. Samuel Brown, which, to be more clearly understood, I will give in his own words—"Inflammable gas is introduced along a pipe into an open cylinder or vessel, whilst a flame placed on the outside of, but near to, the cylinder is constantly kept burning, and at times comes in contact with, and ignites, the gas therein; the cylinder is then closed air-tight, and the outside flame is prevented from communicating with the gas in the cylinder. The gas continues to flow into the cylinder for a short space of time, then it is stopped off. During that time it acts by its combustion upon the air within the cylinder, and at the same time a part of the rarified air escapes through one or more valves, and thus a vacuum is effected." Honour to whom honour is due; Mr. Samuel Brown

was the indisputable inventor of the gas or vacuum engine; and, as far as economy and efficiency in working such engines, or their modifications, may go, there has been nothing as yet submitted to the notice of mechanical engineers, or chemical manipulators, equal to the inflammable gases evolved from the tops of iron smelting furnaces.

In the same Journal containing Mr. Robert Nelson's announcement (and in the weekly list of new patents, page 157) there is the record of "J. B. Pascal, of Lyons," having patented a mode of "generating burning gases to be applied as a motive-power, and in apparatus for the same."

It perhaps may be said that the gases from the blast-furnaces are at present used under the blast-engine boilers, and in hot-blast stoves. This is true to a certain extent; but the gases flowing from a furnace receiving 5000 cubic feet of blast per minute will yield full 7,000,000 feet per day, which gases, as now applied to steam-boilers, &c., will scarcely raise steam enough to work two engines of 100-horse power each. But if the same amount of gas were used in a vacuum engine, it would originate power equal to 1600 horses; hence the proposed new application of these gases would be a saving of at least 1200-horse power—a force more than sufficient to accomplish all the mechanical operations of an iron-works (the blasting, rolling, pumping, hammering, &c.) capable of turning out a thousand tons of finished iron per week.

S. B. ROGERS.

Newport, Monmouthshire, March 12.

P.S.—Mr. Onions, in last week's Journal, has descended so much into personality that I am quite willing to give him the last word; and may he go on and prosper, for I am neither his nor any other man's enemy.

CORNISH DRY ASSAY—SMELTERS' PROFITS.

SIR,—It is a curious coincidence, in these days of Limited Liability, when Cotton Companies, Turkish Bath Companies, Pneumatic Dispatch Companies, and companies to do anything and everything where there is the faintest prospect of success—singular it is, I say, that amongst so large and wealthy a class as the British Mining interest, none can be found to start a Smelting Company. It is really sickening to see the constant attacks made by the miners upon the smelters, and the "grievances they (the miners) labour under" so frequently paraded before the public. The Cornish Dry Assay is now the theme, and the "smelters' profits" are attacked accordingly; and much to be regretted is it when such a gentleman as Mr. Rickard hazards a statement, that a waste in the present system of assaying entails a loss of 200,000l. per annum on the miners of Cornwall. If Mr. Rickard were at all conversant with the system of purchasing ores, he would know that the surplus obtained by smelting ores, and above the assay (as well as the 21 cwt. given to the ton of ore), forms one of the most essential considerations in calculating the price to be given for the ore. That the "smelters' profits" is a myth, can be proved by any one desirous of doing it; and I challenge Mr. Rickard, or any one else, to show that more than a fair interest upon the enormous capital required has been obtained by the smelters during the last five years; and that anything else than absolute loss must ensue on purchases at present standard, and metal sold at present prices, which, indeed, cannot be obtained. However, the miners have the remedy (if remedy be required) in their own hands. Let them "take the initiative," "set the example," "bell the cat," and let "Mine Agents and Cornishmen" all follow. That they have not done so as yet is obvious to—

March 13.

EFFECTIVE PUDDLING FURNACES.

SIR,—During the late inclemency of the weather, and the extreme atmospheric changes, the accidents on the different railways have been extremely frequent, and I attribute these accidents, to a great extent, to the atmospheric influences upon iron. As heat expands the fibre, so in proportion does extreme cold destroy it by over contraction. Probably the heat is not in proportion to the cold, but as this phenomenon in iron is, no doubt, engrossing the attention of wiser heads than mine, I shall leave them to discover the true cause; but, at any rate, we might fairly presume that the fibre of iron is destroyed by extreme rates of cold. But there is another cause, which I believe it is still more important to understand. In the process of puddling the fibre of wrought-iron must first be formed, and any neglect, or want of efficiency in coming at this process, only tends to produce a fibrous article. No doubt much iron is produced which it would be physically impossible to give any sort of fibre to, whatever the amount of skill brought to bear on its subsequent treatment. At the present day, in thousands of tons of iron operated on the fibre is never allowed to form. The temperature of the blast-furnace is such as will not encourage nor allow the fibre to form—how then is it possible to give it the required finish? I have seen iron sufficiently carbonised that a good fibre could be reasonably expected from it when converted into bars, &c., but in consequence of the variable temperature of the interior of the furnace it has been impossible to render it so. I have seen furnaces so constructed that they could not be made to melt carbonised pig or refined metal. With such a smouldering action, there is not the ghost of a possibility of rendering the iron malleable or fibrous.

Again, there is another class of puddle-furnaces, so constructed that although they heat well the flame is so powerfully concentrated, that at a particular part the heat is so intense and violent that if the iron, whilst undergoing the chemical change, was left to the whole force of it would soon be consumed. Thus, when rendered fluid the damper must be at once closed—putting an end to the current of air so essential in perfecting the change; the carbon might be destroyed, as that is always destroyed at white heat, but sulphur and silica, two deadly enemies, must still remain. Consequently the iron produced in these furnaces is as useless and devoid of fibre as that from the non-heating ones; and I could go on multiplying the causes and effects that prevent iron becoming fibrous, and explain how iron that ought to be of a superior quality is entirely spoiled from a deficient knowledge as to the sort of temperature that is really requisite to render iron truly malleable and fibrous, or the sort of action such puddle-furnaces should possess.

It is deplorable to think of the vast amount of rotten and life-and-limb-destroying iron that is continually brought into use; and I long to see a better system of puddling introduced, which I believe would remedy the evil.

Bridgeend, March 12.

THE WELSH SLATE TRADE.

SIR,—I stated in my last that there are several good quarries on the great slate ranges of Carnarvonshire. Many points favourable for opening good quarries present themselves, and are not noticed. This state of things is, I think, primarily an effect of the causes following:—1. Lack of capital and spirit of enterprise among the natives of the Principality generally. 2. Want of more perfect acquaintance, on the part of capitalist investors, with the county, and the great advantages it offers. 3. Distrust by capitalists of the natives, and consequent unwillingness to have anything to do with them. I will consider these causes *seriatim*, first premising that it has been satisfactorily proved by myself and others, that Carnarvon is not deficient in slate of excellent quality; that facilities exist for its development and profitable working; that the principal quarries—i.e., those known to the public—have made, and are making large profits, which are continually increasing; and that many quarries not known to the public are making considerable profits. 1. I think the fact that the Welsh have not generally much capital, and are not speculative to any extent, is proved by the fact that all, or most, of the largest collieries, iron-works, smelting-works, chemical-works, mines, and quarries in Wales are carried on by Englishmen, and with English capital; the majority of railways, too, intersecting Wales, and which are of such vast importance and advantage to it, have been projected and mainly carried out by Englishmen. 2. We are occasionally reminded through the Journal, by a Correspondent, or a Tourist who has done Wales, of the Mineral Wealth of Ffynnon Mountain, in Anglesea; the Penryn Quarries, in Carnarvon; the Talargoch Lead Mines, in Flintshire; these are evidently regarded by the writers as discoveries which ought to be made known; hence I infer the necessity of bringing the nobility of Wales more prominently before the public. 3. Many friends have told me, and I know from my own experience, that there has long been, and still is, a great degree of distrust of Welshmen among capitalists, and this necessarily engenders aversion to adventure in Wales. Perhaps this is the embodied spirit of a certain old nursery rhyme, but it were better done away with. Welshmen may be trusted if properly treated. Let the intending investor go into the country, and among the people, unprejudiced, and with a full determination to do the best he can—of course, taking care of himself, as he would in dealing with his next neighbour at home; not declaring everywhere his firm conviction of the questionable antecedents of Taffy, as related in the rhyme above alluded to. Let him be prepared to complete his bargain at once—delays are everywhere dangerous—and he will find all square, and will go on comfortably when those alongside him, acting on the opposite principle, are plagued and imposed upon every way.—Little Neston, March 13.

T. L. COTTINGHAM.

THE SLATE TRADE.

SIR,—Mr. T. C. Smith is unjust in remarking that the Welsh are unwilling to give information relative to the finding and working of slate rock. My experience tells me that not only are the quarrymen ready to give any information that may be required, but that most of the proprietors are at all times ready to assist with their advice and experience when asked. The Welsh are not communicative to Englishmen, because they do not understand the English language. I cannot agree with Mr. T. C. Smith in thinking that there is a monopoly of the trade, the numerous trials now going on both in Carnarvonshire and Merionethshire indicate that the fact is quite the reverse. The great quarry proprietors undoubtedly monopolise the best managers and workmen, taking care to keep clear of the noisy and idle peripatetic schemers who are constantly on the look out for credulous speculators, with a view to induce them to enter into undertakings, so as to their obtaining appointments as agents or managers.

The best service Mr. Smith could render to capitalists would be to visit all the old and extensive works, and give a description of them, pointing out the peculiarities of each, and showing in what particular point they excel as profitable investments. He might show how some great beds of slate, though wearing the most promising appearances, are known to the experienced rockman to be quite useless. Wales abounds with abandoned trials for slates, and in almost every instance the parties might have ascertained that there never could be a chance of a successful result. Silence and careful enquiry will remedy these evils. Some places hitherto unprofitable may be made so by the judicious use of machinery, and improved means of transporting their produce to market.

One hindrance preventing the development of the mineral wealth of Wales is the persevering use of the Welsh language. A Welshman, though well read in the literature of his country, unless he knows English knows nothing of what is going on in the world of science. Geology and mineralogy are unknown to him, and I believe that there are no terms by which to describe the simplest known operation in arithmetic, mecha-

nics, chemistry, &c. Meetings are frequently held, and well attended, where literature and history are discussed, and where prizes are given for Welsh poetry; but I have never heard of any prize being offered for works relating to the material improvement of the country, though I believe much has been given for a deal of useless literature, principally composed of poetry that can hardly be understood by the natives themselves, and which is, consequently, of no use to them or to anyone else.

SARUM.

COPPER MINES OF LAKE SUPERIOR—No. II.

SIR,—It is no wonder the mineral riches of the Lake Superior country, its wealth of copper and iron (and, perhaps, of silver), with the many and various features of interest it presents to geologists and mineralogists, have begun to attract the attention of men of science in Europe. While the capitalist has confined his attention to the copper and iron, the geologist is attracted by the peculiar conformation of this region,—its bold and precipitous shores; the alternate ranges of sandstone, trap, and conglomerate; and the interesting specimens of pure silver, native copper, sulphate and oxide of copper, of malachite, of amethyst, and other varieties of trap, and of trap-like epidote, the unfailing companion of the whole of the trap ranges.

Agassiz, whom every American is proud to claim as a citizen by other ties of allegiance than those of the republic of letters, has visited the Lake Superior region, and has described its physical character, vegetation, and animals, with all its characteristic sagacity and carefulness of observation. Mr. F. C. L. Koch, a member of the Council of Mines of Brunswick, also visited Lake Superior. He was a man of great attainments in natural sciences, and also practically familiar with mining. In the year 1855 France sent one of her sons, Mr. L. E. Rivet, M. E., and Professor of the School of Mines, to this country, to see whether France could obtain her supply of copper here. The Professor, after a careful examination of the mineral country, returned, taking with him a splendid collection of specimens, which are exhibited since in the Museum of the School of Mines, and was satisfied that the Lake Superior region could furnish an abundant supply of copper. This American copper was carefully tested by the able professor, who is at the head of the assay office, and found it fully equal, if not superior, to the best Russian and to the best English. It is now used in the manufacture of ordnance, and no inconsiderable quantities are also consumed in France in the manufacture of jewellery, percussion-caps, and a great variety of other articles. Prof. Rivet published, in 1856, a work ("Voyage en Lac Supérieur") which has created a great deal of interest among the scientific and mining men of France. In the year 1856 the professor, anxious to study with more minuteness and time the geology and the nature of the rocks, also the working and development of the copper mines, made a second trip to Lake Superior district, and explored carefully the three mineral districts—the Ontonagon, the most northern; the Keweenaw Point, the most eastern; and the Portage Lake, lying mostly below, and partly between, the range of the other two. After his return from this second trip Prof. Rivet published his second work ("Notice sur le Lac Supérieur"), and these two books are as full of interest to the man of science as are the rocks of wealth for the man of trade and capital. The mineral, commercial, and agricultural resources of Lake Superior attract the attention of European tourists, artists, mining men, and visitors; all are in the crease of our production, the wealth of the sub-soil of our mines, the energy and skill of our mining captains (who are mostly gentlemen from Cornwall), the good management of the directors of our mining companies. The profitable returns of the Minnesota, Cliff, National, Rockland, Pewabic, and others, have placed the mineral district of Lake Superior among the best mining countries in the world. The English miners have taken a large part in the exploration and working of the mines of the country. The first company for exploration was organised by Alexander Henry, the English Indian trader, in 1773. From 1845 to 1855 most of the explorations made in search of copper veins were conducted by men of English descent, and the great Cornish miners; the largest part of our mining population came from the county of Cornwall (the total amount must be over 5000). The mining captains of our principal dividend mines are all Cornish gentlemen, and are a very valuable body of men, possessed of a large amount of practical knowledge, and much relied upon by the companies.

Now, Mr. Editor, see of what advantage it will be for English capitalists to be well informed of the true history of the ten years of our mining works, of the production of copper, and real value of our mines and mining stocks; of our forests, furnishing almost limitless quantities of timber and lumber; of our fisheries in our great inland sea, furnishing varieties of fish which are nowhere else to be found, and which an epicurean taste has long since pronounced among the richest luxuries of the palate; the Lake trout, the Mackinnow trout, the muskellunge, and the white fish, are celebrated throughout all America. Good fishing grounds occur all along the south and the north shore of Lake Superior, affording a bountiful supply.

The mines and mineral lands of the northern peninsula of Michigan are to a stranger its most striking feature, and to the capitalist at the present time its greatest source of wealth. This great interest of Michigan was first brought into public notice by the enormous speculations and the mad fever of 1845-46. The history of the first copper mines on Lake Superior shows that even the best mines disappointed the owners in the beginning; and of this I will give you the cause. It is scarcely ten years since mining was first properly commenced in that remote region; at that time it was difficult to get out of the rapid of the St. Mary's River to approach it by water with large craft. Being more than 1000 miles distant from the centre of the Union, destitute of all the requirements for the development of mines, every tool, every piece of machinery, every mouthful of provisions, had to be hauled over the rapids, boated along the shores for hundreds of miles to the copper region, and then often carried on the backs of men and beasts to the place where copper was believed to exist. Every stroke of the pick cost tenfold more than in populated districts; every disaster delayed the operations for weeks and months. The opening of the Sault Canal has changed all this, and added a wonderful impetus to the business, the mining interests, and the development of the Lake Superior country. No longer is it necessary to transport the heavy machinery and tools by the tedious and dangerous route of the rapids, and the number of these is destined largely to increase year by year, an indication of the growth of business and the opening up of the country. For the growth in the copper interests we have only to refer to the shipments from that region year by year. These in gross are as follows:—

1853	Tons 2925	1857	Tons 6094
1854	3500	1858	6025
1855	4544	1859	6245
1856	5857	1860	8530

The same facts of development would hold generally true with regard to the other industrial interests of that vast country: it remains yet almost "a vast howling wilderness." Marquette (iron district), Portage Lake, Copper Harbour, Eagle River, Eagle Harbour, and Ontonagon, and the mines adjacent, are the only places where the primeval forests have given place to the enterprise of man; and these, in comparison with the whole extent of territory embraced in this region, are but insignificant patches. What this country may become years hence, it is difficult to speculate how to predict, but there seems no reason to doubt that it will exceed the most sanguine expectations.

The copper region is divided into three districts—the Ontonagon, the Keweenaw Point, and the Portage Lake. In the first are situated the Minnesota, Rockland, National, Superior, Nebelika, Knowlton, Shawmut, and a multitude of others. In the second are the Cliff, Copper Falls, Central, Clark, and others. In the last are the Pewabic, Quincy, Isle Royale, Huron, Franklin, and numerous others. Each district has some peculiarities of product, the first developing huge masses of native copper, while the latter are more prolific in vein rock, the copper being scattered throughout the rock. At Minnesota, Cliff, National, and Rockland masses are often found of the weight of 50 to 100 tons. It is cut by means of steel chisels, driven by blows of a heavy sledge-hammer, one man in the chisel and the other strikes with the hammer. A groove is morticed out across the mass of copper, and then a series of ribs of it, about a quarter of an inch in thickness are cut out, until the channel thus morticed divides the mass. The copper is perfectly malleable and ductile, and is very tough. Some masses of rolled copper are very pure, and ought to yield more than 90 per cent. of refined metal. The superior tenacity of Lake Superior copper is a very strong recommendation in its favour. It is also in some masses largely alloyed with silver. In some copper of the Minnesota Mine Mr. A. Hays, assayer for the State of Massachusetts, found in a ton 3½ lbs. silver; this fact renders it a superior article for sheeting vessels, as the silver prevents oxidation. In the recent products of the Lake Superior Mines, the weights of the various products are respectively as follows:—1853, 11,800 lbs., 11,662 lbs., 11,554 lbs., 11,300 lbs., 11,125 lbs., 10,525 lbs., 9700 lbs., 9560 lbs., and 9486 lbs., giving an aggregate weight of 96,703 lbs., and an average weight of 10,372 lbs. each.

Product and value of mineral at MINNESOTA MINE for 1856.—The whole amount of mineral produced or raised from this mine from Jan. 1 to Dec. 31, was 2,868,422 lbs., or about 1434 tons, nearly two-thirds of which consisted of masses, and the remainder of barrel ore and stamps work. This gave an average of 119½ tons per month, against 63½ tons the preceding year. The gross value of this product, estimating its net yield of copper at 71 per cent., and the price at average sales for the past season, is \$549,876; and the total expenditure, including mining cost and all charges, \$280,932: making the net earnings for the year, \$268,944.

Product and value of mineral at MINNESOTA MINE for 1857.—The whole amount of mineral produced or raised from Jan. 1 to Dec. 31 was 3,718,403 lbs., or 1859½ tons, of masses, barrel, and stampings, being an average of nearly 155 tons per month, against 119½ tons for the previous year. They also obtained 112 lbs. of silver ore. The gross value of this product, estimating the net yield of pure copper at 72½ per cent., and the price at average rate of sales for the past season, will be \$701,906: the total amount of expenditure, \$556,541: making the net earnings for the year, \$145,364.

Product and value of mineral at MINNESOTA MINE for 1858.—The whole quantity of mineral produced or raised from Jan. 1 to Dec. 31 was 3,667,112 lbs., or 1833½ tons, being an average of 153½ tons per month. They also obtained 70 lbs. of silver ore. The above product, estimated at the average net yield of mineral melted during the season, will realise the gross value of \$595,000; the total expenditure on mining account, \$384,827-41: making the net earnings for the year, \$210,172-59.

Product and value of mineral at MINNESOTA MINE for 1859.—The whole quantity of mineral raised during the year was 3,252,117 lbs., or 1626 tons, of mass, barrel, and stamp copper, being an average product of 135½ tons per month. They have also about 88 lbs. of silver ore. The above gross product will realise the sum of \$515,786; deduct expenditure, \$384,394-68: leaving net earnings for the year, \$131,391-12.

The production of copper for 1860 at this mine is 9183 tons, average number of miners employed throughout the year, 328; average monthly wages, \$39-29 each. The entire working force comprises 657 miners and labourers, and 45 mechanics and engineers, making, with the agent and 13 other officers, 718 persons employed in the various departments of the company's business.

MACHINERY.—The machinery consists of three steam-engines for hoisting from the several shafts, one pumping-engine at No. 3 shaft, and an engine for stamping, with saw mill and corn mill attached. The three hoisting engines have each a capstan attached; they have also two horse-captains and two horse-whims, which are used as occasion requires. All the machinery is in good condition, and performing efficient duty.

PERMANENT IMPROVEMENTS.—During the past year they have built four new boarding-houses, capable of accommodating 120 men; one good frame dwelling, and one warehouse, besides engraving and repairing many of the other buildings. The village of Rosendale, laid out by the company in 1858, has more than doubled in buildings and in population within one year. It now contains 86 houses and shops, and 450 residents, 250 of whom are employed by the company. It will doubtless make equal, if not greater, progress during the current year.

AGRICULTURAL LANDS AND PRODUCTS.—The company have added about 70 acres to their cleared lands during the year, making some 400 acres now under cultivation, besides that occupied with buildings and improvements. The farming product for 1860 was 10,548 bushels of potatoes, 2100 bushels of turnips, 150 tons of hay, and 100 tons of oats. It is also estimated that there were 3000 bushels of potatoes and turnips raised on the same farm. This is the surface crop, independent of the sub-soil production, which is 2180 tons of copper. The copper is worth at the mine \$697,600, while the surface production may be safely estimated at \$15,000 more, in all \$712,600. I should like to see one other farm that will equal this product.

The capital stock of the Minnesota Mining Company is \$1,000,000, divided into 20,000 shares, of \$50 each, on which \$3½ only have been paid up by the original stockholders. This mine has returned over a million and a half of dollars in dividends from the beginning of operations. The shares are now quoted at the Mining Board of Boston at \$45, which price is very low, and presents a splendid chance for profitable investment to European capitalists. The price of that stock was last November, before

the political crisis, at \$89 to \$90. The directors will soon declare a dividend of \$10 to \$12 per share. The property, improvements, machinery, &c., are worth some \$800,000. F. A. ARTHUR, Agent of the Ontonagon Mining District Association.

WHEEL MARGARET, AND ITS MANAGEMENT.

SIR,—I quite agree with the remarks of the Tauton shareholder in last week's Journal. The discrepancy between the reports and the dividends is very extraordinary, to say the least. In August, 1859, we were told that "30 tons" (?) of tin were temporarily lost through a run of ground, but we have heard nothing of these 30 tons since. It was necessary to give some reason for a decline of 60 per cent. in the dividend, and it would appear that the accident happened very conveniently. At the November meeting the report stated that on the Foal lode from 6000l. to 9000l. worth of ore had been laid open during the previous three weeks, and very soon afterwards we were told of the cutting of a magnificent bench of tin in the 120, on the same lode, so that during the last quarter, according to the reports, an immense quantity of ore ground must have been laid open. In addition to the 9000l. worth mentioned in November. Notwithstanding these brilliant statements, we have only sold for last quarter 4177l. worth of tin. The dividend was only 30s. per share, or 25 per cent. less than it was before these magnificent discoveries, while of this small return only 25s. per share was "really" earned. We have the severity of the weather given as one excuse, but it is said, on the other hand, that the agents were not delayed in the stamping or dressing of tin by the weather. I think the manager might condescend to tell us what were the "other causes over which they had no power" that gave rise to the disappointment. It cannot be want of tin, "if the reports are true," and I think Capt. Treweek is bound to give us some information, for there is none in the short and meagre report presented to the meeting on Feb. 27. It appears to me that in our case the richer the lodes the poorer are our dividends, and I cannot wonder at the complaints in the London market about this mine. No reports are published, and nobody can get any information.—March 11.

W. A. B.

GREAT HUCKLOW MINING COMPANY VERSUS MILL DAM MINING COMPANY.

This cause came on for further hearing on Tuesday and Wednesday. At the last hearing, in Jan., 1860, an order was made by the Vice-Chancellor Stuart directing that some mining engineer of eminence should inspect the mines, and make a report to the Court, stating—1. In whose property the swallow mentioned in the plaintiffs' bill was situated. 2. Whether any ground had been cut in addition to clearing out an old drift road by the defendants, so as to open a passage for the water sent from defendants' mine to that of plaintiffs. 3. Whether defendants, in fact, had raised water from below the old water level and sent it into the plaintiffs' mine, as alleged by them. 4. To report generally as to the best method of draining both mines.

Under this order, Mr. John Petherick, an eminent mining engineer, was appointed, and after viewing the mines and hearing the parties upon the ground, made his report in January last, it having been delayed so long in consequence of Mr. Petherick being called to the United States of America, and various other countries, on mining affairs. Upon the first question submitted to him he reported that the swallow was situated in the plaintiffs' property. Upon the second, that defendants, or their predecessors, had cut through solid ground to enable the water to flow through it into the swallow in the plaintiffs' mine. Upon the third he found that the defendants had raised water from below the old level, and sent it into the plaintiffs' mine; and in compliance with the Vice-Chancellor's desire, he also gave his opinion as to the future working.

Mr. MALINS and Mr. PEARSON now moved for a decree in conformity with his report. Mr. AMPHLETT (for defendants) objected that the language of the report was so ambiguous that a decree ought not to be made without further enquiry. The ambiguity complained of being, that although Mr. Petherick had reported in favour of the plaintiffs on the three several questions submitted to him, in his answer to the second question he says that defendants, "or their predecessors," had cut through the solid ground between the old drift-way and swallow, and, consequently, that this cutting might have been made by the defendants' "predecessors" at some very remote period, although the plaintiffs contended that if such had been the case Mr. Petherick would have said so.

After much discussion, the VICE-CHANCELLOR said he would direct an action at law to try the question of right claimed by the defendants to send water to the plaintiffs' swallow, and that the action should be commenced in the name of only one plaintiff against one defendant, but that he would make all parties to the suit mutually liable to each other for the costs, each party to make the usual admissions, so as to have the question in dispute fairly tried.

The defendants' counsel objected to make the admissions required, whereupon Mr. MALINS, on behalf of the plaintiffs, said in that case he was willing to let the defendants make the admissions in the action, and he would make the admission, but to this the defendants also objected.

The VICE-CHANCELLOR said this was the proper course, and he should adopt it, and accordingly he made an order that one of defendants in the suit should bring the action against one of the plaintiffs, each party making the admission mentioned in the order, so as to get the real question tried, and each party to have right to inspect the mines on reasonable notice.

The injunction against the Mill Dam Company to be continued till further order.

THE CARDIFF AND CAERPHILLY IRON COMPANY.

At the Bankruptcy Court, on Monday, a meeting took place before Mr. Commissioner Ponblanque, for a settlement of the list of contributories under the winding-up order made against the above company some few weeks since.

Mr. DORIA, instructed by Messrs. Keighley and Gething, appeared for the official liquidator, and proceeded to state to the Court the grounds upon which the various names appearing on the two lists prepared by the official liquidator were considered liable. The first one was the list of original shareholders, or those who had accepted shares directly from the company and not by transfer. Of these sixteen were fixed with liability, having made the application in the usual form, paid the usual deposit, accepted the allotment, signed the deed, and had been placed upon the register.

Upon the name of Mr. Biddulph, the well-known banker, being proposed as a contributory, it was objected on his behalf that he had committed none of the acts above detailed, and was, therefore, not liable.

Evidence was given at considerable length, but the facts were simply these—Communications had taken place between Mr. Biddulph and Mr. Greenhill, the solicitor of the company, Mr. Biddulph promised he would take shares and become a director, provided Mr. Greenhill guaranteed him against any liability in respect to the shares he might take. Mr. Biddulph had appeared at one of the board meetings of the directors, and presided as Chairman.

The Commissioner did not think this was sufficient to fix Mr. Biddulph with liability, but observed that Mr. Biddulph had placed himself in a very equivocal position.

The name of Mr. Biddulph was accordingly struck out.

Mr. DORIA then proposed the name of the Rev. Mr. Dove as a contributory in respect of fifty shares. Mr. Dove had made application for the shares, had paid the deposit, and his name was on the register.

For Mr. Dove it was objected that he had been induced to apply for and accept the shares by misrepresentations, inasmuch as he had been told by the secretary, Mr. Towers, that Mr. Biddulph, the banker, was a director, and it was only upon that statement that he had been induced to become connected with the company. Mr. Towers (the secretary) was then examined, and he said he did not consider it was his duty to induce persons to take shares in the company, but he had done so. Mr. Dove had called upon him twice, and upon the second occasion that gentleman said that, seeing Mr. Biddulph's name in the prospectus, he wished to take some shares. He had not told Mr. Dove that 4000 out of the 5000 were free shares—shares given to other persons for presumed benefits received by the company. He had not, on the other hand, represented that the whole of the 5000 shares had been taken up by bona fide holders; that no doubt he had told Mr. Dove that there was every prospect of the company becoming exceedingly prosperous. He was the secretary of the company, and all the representations as to the unlimited wealth that existed in the mine came to him in that capacity, and it was his duty to detail it to those who came at the office for information. He had, however, stated nothing to Mr. Dove but what had appeared in the prospectus, and in the notices that had been given in the public press.

Mr. Dove was then examined, and said that Mr. Towers had told him that it was a very flourishing company; that men of considerable substance were connected with it, and amongst them Mr. Biddulph; that applications for shares were coming in fast; that he had that very morning received an application from an officer at Aidershot for 400 shares; that the works were about to commence, and that the company was progressing very prosperously. By these statements, and seeing Mr. Biddulph's name in the prospectus, he had been induced to take 50 shares, but since his payment of the deposit upon them he had not heard of the company, and he did not sign any acceptance of the shares.

The Commissioner then said that Mr. Dove was clearly a contributory, inasmuch as even supposing the misrepresentations alleged were really and actually misrepresentations, they had been made by a person who had had an authority to make them.

Mr. DORIA then proposed the name of Mr. John Henry Read, a clerk in the employment of the Great Northern Railway Company, as a contributory in respect to 20 shares held by him.—For the alleged contributory it was urged that he was an "infant" at the time he applied for and accepted the shares, and was, therefore, not liable.

It appeared that Mr. Read accepted these shares on July 24, and that he became 21 years of age on Aug. 4 following, ten days only intervening. A lengthy correspondence between Mr. Read and the company was then shown, being a perfect specimen of dealing with matters of business, and to protect his own interest. It also appeared from the statement of Mr. Read, while under examination, that he was the son of a clergyman.

The Commissioner said of course he must admit the objection on the ground of minority as a valid one, and must, therefore, release the alleged contributory, Mr. Read, from all liability; but he could not help saying that he considered it a disreputable defence, and one not at all becoming the son of a clergyman.

The second list, consisting of the names of those who had taken shares and transfers, was adjourned for further consideration. These, it appears, consist of those who had taken their shares from the promoters, Messrs. Greenhill and Curtis, the original proprietors of the mine, and Mr. McCraw, through whom they had sold it to the company for 4000 shares. The meeting was then adjourned.

PRICES OF MATERIALS.

As charged at the GREAT WHEEL FOR UNITED MINES during the following months:—

Description.	Oct.	Nov.	Dec.
Coals, common.....per ton	13s. 0d.	13s. 6d.	13s. 6d.
Cardiff	18 4	18 4	19 2
Iron, crown	11 6	11 6	—
S.C.	15 6	14 6	—
Steel-bilster and cast	50 0	—	—
Nails, patent 4-inch	12 9	—	19 9
Tallow	56 6	—	64 6
Groase	13 0	—	—
Oil, olive	per gal.	—	5 9
Candles	per doz.	6 10	7 0
Hills, pick	—	1 6	—
Powder	per 100 lbs.	54 0	54 0
Cartridges	per 100	42 0	42 0
Leather, bend	per lb.	2 3	2 3
butt	2 0	2 0	—
White yarn	—	—	0 6½
Hemp	per lb.	—	0 6
Chain	per cwt.	—	24 0

THAMES TUNNEL COMPANY.—Receipts for the week ending March 9, 50l. 1s.; number of passengers, 19,312.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending March 10, was 10,512l. 17s. 1d.</

Meetings of Mining Companies.

MOUNT PLEASANT LEAD MINING COMPANY (NEAR MOLD).

A meeting of the directors of this mine took place on March 6, when a dividend was declared of 11. per share. The manager presented his report, in which he stated that the progress of the mine during the six months ending Christmas had been very satisfactory, the result being as follows:—Ore sold, 253 tons, realising 3414l. 11s.; disbursements, including royalty, income tax, &c., 2172l. 15s. 3d.; leaving profit, 1241l. 18s. 9d. The results of the last two months' operations were also stated to have been satisfactory, a fair profit being returned, and the prospects were described as very favourable. Although the manager has often seen larger bodies of ore in view, yet as no time has been seen the ends more promising, or a larger space of congenial ground developed throughout the mine. The north workings have been chiefly confined to tributaries in places near the 70 yard level. Ore has been reserved in two different places, and the men are driving in a large joint in a direct line towards the boundary shaft, being now about 16 yards short of it. The ground is highly promising, but there is no ore in it at present.—Griffiths's Incline: There is a large extent of ore ground on both sides of this incline, which the manager considers highly deserving of being thoroughly explored, and he has decided upon opening and extending it eastward, of which itself is a good trial, and will afford great facilities in exploring the ground.—Ferry's Incline: Very fortunate discoveries of ore have been made in the level at the bottom of this incline, and the men are now raising ore in a north and south joint of a very favourable character, at 40s. per ton. The produce in the last four weeks has been about 20 tons.—South End: The ground here is of a most congenial character, and producing more or less ore every day, but nothing of much value. The manager, however, is of opinion that there is a body of ore near, and that no place in the mine is more deserving of a full trial.—Boundary Shaft: This is sunk to the depth of 70 yards, and is now in the loamy soil, immediately overhanging the flat. This stratum is of a variable thickness of from 5 to 10 yards, and the manager expects the men will shortly cut into the productive ground. The ground had continued much harder than he anticipated until the last 10 or 15 yards, and this had, of course, retarded progress and added to the cost. He still felt sanguine, however, that the shaft would be completed within his first estimate, of 250l.

Such was the substance of the report given by the manager at the meeting in question; and on that evening the men sinking the new shaft dropped upon a very free course of lead ore, running through the centre of it, the bearing being a little west of south. "Little dependence can be placed upon so short a draft," says the manager; "but as there appears a solid wall on the eastern side, it is pretty certain to run a very considerable distance in our ground. My present impression is that it is the same joint as that in which Parry and his partners are raising ore at 40s. per ton in our south incline. I was much pleased with the ore brought up, which is chiefly in large blocks up to 3 or 4 cwts. The quantity cut out of about 2 ft. of sinking is fully 2½ tons."

ALLT-Y-CRIB MINING COMPANY.

The annual meeting of proprietors was held on Tuesday (by adjournment from the previous day), at the company's offices, Bishopgate-street Within, Mr. PARKER FITTAR in the chair.

The notice convening the meeting having been read, the minutes of the last were read and confirmed. A statement of the cash receipts and payments for the year, ending Feb., was then submitted, from which the following is condensed:—

Lead ore	£ 790 8 3
Calls	226 8 0
Rent	11 11 0
Loans	155 7 6=£1883 9 3
Balance last audit	£ 33 19 3
Labour and merchants' bills	1503 13 11
Dues	67 13 11
Manager's salary, office expenses, &c.	83 9 3
Interest account, discount on ore bills, &c.	41 13 2
Books, stationery, seal, &c.	21 14 6=1752 3 1
Leaving cash balance	£ 131 6 2
The balance of liabilities over assets at Feb. 28 was 38l. 12s. 1d.	

The report of the agents was read, as follows:—

March 7.—The operations that have been carried out at this mine during the last twelve months, and the present position and prospects, are as follows:—The deep adit has been driven west 16 fms., making in all 49 fms. from where the driving was recommenced. A few strings of ore have been found, but as they were of no value, and as from the distance driven the adit should have cut the lode, a cross-cut north was driven 8 fms. This cross-cut passed through a lode 9 ft. wide, soft and disordered, and not running in the direction of the lode sought for, and, from the dialling, it appeared that a cross-cut south should be driven to get under the old workings seen at the surface. A cross-cut south was accordingly driven for 9 fms., but no lode of any kind has been discovered in that direction, and the men have now been moved back to drive west on the lode passed through in the north cross-cut. By referring to the plan of the mine, you will see that a cross-cut driven south-west from the present end of the adit would cut all the cauter lodes in about 50 fms., and as the intersections would be from 40 to 60 fms. from the surface, it would be a good trial of the value of these lodes, which have been worked to a considerable extent from the surface. The shallow adit (on the north and south lode) has been driven 62 fms. from the mouth. A bunch of ore 1½ fms. long was first cut, and has been stopped to the surface. After 6 fms. of dead ground had been driven through, a second bunch of ore, 6 fms. long, was discovered, and this also has been stopped to near the surface. Another piece of dead ground was driven through for 8 fms., and then the lode divided into two branches, one continuing north and south, and the other going off 45° west of north. The north and south branch has been driven on for 20 fms. from the division of the lode, but has not opened out any stopping ground, though good stones of ore have been met with, and there are two solid branches of ore in the bottom of the level—one 3 fms. and the other 5 fms. long. The north-west branch has produced stopping ground from the division of the lode to the present end—a length of 16 fms. This lode is yielding about 12 cwt. of ore, and is now 5 fms. above the back of the level, and 8 fms. below the surface. An old shaft has been cleared and sunk from the surface to the end of this level for ventilation, and in it ore was seen within a fathom of the top. As these two levels are not beyond the highest part of the hill, and the backs above them will rapidly become more shallow the further they are extended, and as the ends are getting poorer, it is intended to drive them but a few fathoms further, a lower level being pushed on, which will enable what ore there may be to be taken away more advantageously. A level 15 fms. below the shallow adit, and called the new adit, has been driven 33 fms. from the mouth, and holed to a winze sunk between the first and second bunches of ore in the level above, and at this point ore was cut corresponding with the first bunch above, but longer, it being 3 fms. in length instead of 1½ fms. This level has been driven 6 fms. beyond the winze in poor ground, and the end having passed the cross-joint is now in ore ground again. As this ore has been cut only to-day its value cannot be stated, but the characteristics of the lode are precisely similar to what was seen in the level above, except that the bunches of ore (judging from the first bunch cut) appears to be longer, and, if this proves to be the case, this level will open out valuable ground, as before it is a stop 6 fms. long in the level above, and then, after 8 fms. of poor ground, another stop 16 fms. on the north-west branch, and very probably, judging from the ore in the bottom of the level, stopping ground will also be opened on the north branch, and all these stops will have 15 fms. of back. The works recommended to be carried out now are—the driving another adit level about 15 fms. below the new adit; the sinking a winze, in continuation of the shaft from the surface, near the end of the north-west branch of the shallow adit; the pushing on as fast as possible the new adit; and the driving a few fathoms west on the lode discovered in the cross-cut north from the deep adit, on the east and west lodes; and then, if nothing of value is discovered, the turning the deep adit, so as to intersect the cauter lodes in the shortest distance. Supposing the men driving in the shallow adit are stopped, the men required for the works recommended will be—in the deep adit, east and west lode, four men; sinking winze below the shallow adit, north-west branch, four men; driving the new adit, six men; and driving the cross-cut, adit or adit No. 3, on north and south lode, four men. The sinking the winze need not be commenced immediately, but it will be required by the time the new adit is under the third stop. It is highly desirable that a powder-house be built on this mine, as now, from being obliged to have it in small quantities, the powder costs much more than it would if bought direct from the powder companies. We are now also encouraging the dangerous practice of general shopkeepers having a considerable quantity of powder on their premises, without having a safe place for it. The powder-house would cost from 15l. to 20l. The ore sold during the last twelve months has been 71 tons 2 cwt. 2 qrs., the value of which is 1012l. 11s. 9d. There will also be 8 tons more sampled on Monday, the 11th inst. The returns for the next twelve months it is impossible to estimate correctly, as so much depends on what ore ground is opened in the new adit. About 10 tons a month may be calculated on now, with an increase in proportion to the new ore ground as it is opened out, and supposing the stop in the shallow adit to continue as it is now. The costs will depend on what dead work is carried on, each additional man being estimated at 4l. a month, the general expenses being about the same as before.—THEODORE PAUL, JOHN HUGHES.

The CHAIRMAN thought that the shareholders could not but consider the report and accounts as extremely satisfactory. Upon a reference to the balance-sheet it would be seen that the capital called up amounted to only 2125l., of which amount 750l. was for plant, lease, and law and other charges incurred in the formation of the company; and that, after taking into consideration and allowing for every expense, the balance of liabilities over assets was only 38l. 12s. 1d. The total quantity of lead ore sold was 95½ tons, which had realised about 1300l., and nearly the whole of it had been obtained from the shallow adit, upon the lode discovered at the top of the hill, which was an unexpected discovery, and totally independent of the object for which the company was originally formed. By the report just read it would be seen that the returns were now about 10 tons per month, and it would be recollected the report read at the last meeting stated that the same quantity would be returned in two months, which was a conclusive proof that their returns were steadily increasing, and there was no doubt they would continue to do so in proportion to the extent of ore ground opened out. No machinery being required for pumping at that part of the mine, the costs were comparatively small. At the formation of the company it was anticipated they would have for some time to drive the low levels, in order to efficiently develop the courses that were above, but up to the present time their costs had been paid by the returns made from discoveries which had never been anticipated. Being a large shareholder, he had naturally taken a deep interest in the undertaking, and had made enquiries of a great many practical persons as to the prospects of their mine, and he was glad to inform the shareholders that he had obtained an invariably good opinion from all quarters.

Mr. MURKINSON then read a favourable report from Mr. Davies, the manager of the Rhowyddol Mine. It stated that from the quality of the ore and its great solidity it ought to make richer in depth. He strongly urged the pushing on of the deeper levels, and stated that in the new adit there was a large lode, which looked very kindly, and producing some fine looking ore; the end was under the commencement of the ore ground on the shallow adit, upon the lode discovered at the top of the hill, which was an unexpected discovery, and totally independent of the object for which the company was originally formed. By the report just read it would be seen that the returns were now about 10 tons per month, and it would be recollected the report read at the last meeting stated that the same quantity would be returned in two months, which was a conclusive proof that their returns were steadily increasing, and there was no doubt they would continue to do so in proportion to the extent of ore ground opened out. No machinery being required for pumping at that part of the mine, the costs were comparatively small. At the formation of the company it was anticipated they would have for some time to drive the low levels, in order to efficiently develop the courses that were above, but up to the present time their costs had been paid by the returns made from discoveries which had never been anticipated. Being a large shareholder, he had naturally taken a deep interest in the undertaking, and had made enquiries of a great many practical persons as to the prospects of their mine, and he was glad to inform the shareholders that he had obtained an invariably good opinion from all quarters.

The CHAIRMAN stated that they had now entered the ore in the new adit 15 fms. deeper, which was an unmistakable proof that the ore was holding down. He thought it would be advisable to drive another adit 15 fms. deeper, so that the mine should be opened as rapidly as possible. The report and accounts were then adopted.

Messrs. Parke Pittar, J. H. Marchison, P. M. Sharp, and Captain Mann, having been elected directors, and Mr. E. Eley, jun., appointed auditor, the proceedings terminated with a vote of thanks to the Chairman.

ST. AUBYN MINERAL COMPANY.—The Vice-Warden of the Stannaries has appointed Mr. Fred. Marshall, of Truro, the official liquidator of this undertaking.

TRUTH'S ECHOES; OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been more active this week, and there appears to have been a fair average amount of business transacted. The present depressed state of shares has, no doubt, produced a very favourable opportunity is now afforded. The enquiry for leading mines, both dividend and progressive, has been maintained, and there is no apprehension but the market generally will become more buoyant. The receding of the standard for the last resulted in a decline of the price in most of the mines, but it is held that it is only a temporary depression. A usual fortnightly "account" took place on Thursday last, which, with the settling for the same, has had its common influence on the business of the week.

EAST BASSETT shares have been in fair demand at advanced rates, arising, no doubt, from the reported improvement. NORTH BASSETT shares have been fairly dealt in, and a great many changed hands, but the prices have fluctuated very much. SOUTH FRANCES are sought for at former rates. NEW WHEAL FRANCES have been in fair request, without any marked difference in price. NORTH FRANCES find buyers at former prices. WEST WHEAL SETON shares have been in good demand at advanced rates, arising from an improvement. CANN BREA, WHEAL BULLER and BASSETT shares have been dealt in at former quotations. EAST CANN BREA have found strong buyers. CORREY HILL shares maintain their improved price, and remain firm. SOUTH CARADON and WEST CARADON continue in request, business having been done in each mine. EAST CARADON have been largely dealt in during the week, and shares have fluctuated almost daily. MARKE VALLEY have been in good request, and several transactions have followed at former rates. LUDCOTT have been freely dealt in at lower prices; the decline appears to have resulted in the report that there will be no dividend at the next meeting. The mine is represented to have improved; but the accident which recently occurred there has prevented the usual returns in time, consequently the financial position at the present meeting will be much more favourable, and far more independent than any that has yet taken place. TRELAUGH and MARY AWE have been rather heavy. EAST WHEAL RUSSELL have been in fair request, and several transactions taken place; the prices, as usual, have fluctuated. LADY BEITHIA are more enquired after, but the advance has not been maintained. SOUTHBIDGE CONSOLS continue heavy, and the transactions few. CREBOR, which declined last week, showed a little more animation, but it is of a temporary character. HINGSTON DOWN have been done at former rates. WHEAL EDWARD show much heaviness at present, and the transactions few. KELLY BRAY have been a little more in demand, and some business done. TARBROOK are in good demand, arising from the reported discovery in the 90.—WHEAL TARBROOK have been more freely sought after. NORTH DOWNS and NEW TRELAUGH have been more freely dealt in, at slightly advanced rates. NORTH TREKERRY shares have found buyers, and prices have fluctuated, though slightly. PROVIDENCE, WENDRON CONSOLS, and MARGARET have changed hands at quoted prices. STRAT PARK have been dealt in, attended by the usual fluctuations. UNITT, LEWIS, WHEAL AGAR, and CUPID are among the transactions of the week. GREAT ALFRED and ALFRED CONSOLS have been more freely enquired after, and several bargains effected. GREAT WHEAL FORTUNE show an improved tendency. TINCROFT are firm at present prices, and shares find buyers. GREAT RETALLACK have been in very good demand, and maintain fair quotations; the shares are rather scarce even at market prices. WHEAL MOYLE have been doing slightly better, showing a tendency to improve. WEST BRYN GWIOG shares have improved, and several transactions followed. BRYN GWIOG continue firm, and buyers at present prices. NORTH MINERA continue to command buyers, without any marked change in price.

At GREAT TREGUON, the lode in the 80 west is large, and of a very encouraging character, carrying some excellent stones of copper ore, similar to the stopes in bottom of the 70, although as yet not so productive, being a short distance behind the bunch gone down. There is very little doubt that when the end is driven home to that point a productive lode will be found; which object is greatly desired, and hoped to remunerate the patience and capital of those interested. At NEW WHEAL FRANCES they have an improvement in the 10 west, worth upwards of 100 per fm. for the 10, with every prospect of a further improvement. At GREAT RETALLACK, the lode recently cut in the 35 is not so productive for blende as expected, and the change which has taken place is considered more congenial for lead, which metal is the more desired object of search; and should it prove productive in depth on being further opened on will become the great desideratum. SOUTH CONDBURN is represented as looking more encouraging; the lode in the 15 is very large, and continues to hold out much promise. At NORTH DOWNS an improvement is reported to have taken place in the end of the bottom level east, estimated worth nearly 40l. per fm. There are one or two other places indicative of improvement. They sampled on Thursday, reported, 217 tons of ore. At TRELAUGH it is reported that the lode in the 90, the ore is of a very rich quality, and as valuable as at the 80, reported last week.

YARNER meeting was held on the 1st inst., and the accounts presented a balance against the adventurers of 527l. 11s. 6d., but there were arrears of calls due amounting to 238l. 15s. 3d.; a call of 2s. 6d. per share was made. The prospects of the mine are considered very favourable. The operations on the north lode have been interfered with at the 30 by a cross-course, but more encouraging appearances are being presented. The south lode is looking very satisfactory, and progressively improving. The 30 west is yielding from 2 to 3 tons per fm., and looking to improve; in the same level east they have gone through some productive ground, averaging in some places 4 tons per fathom, and there are other places in a good way of sinking before the 15. At NORTH FRANCES (S. Ives) they are progressing with the new engine-shaft, which is being sunk by nine men. Every expedition is being made in the erection of the engine. The prospects are of a very encouraging character, for they have driven an adit about 110 fms. on the course of the lode, which has been productive all the way, varying from 6 to 20 cwt. per fm. for copper ore. The present end is opening out larger, and ore throughout. There are two winzes in the bottom of the adit, worth 12l. per fm. each, which will be resumed as soon as the engine is at work.

At NORTH TRELAUGH a slight improvement has taken place in the 65 south, where the lode is producing about 10 cwt. of lead per fm., and looking promising for further improvement. At TRELAUGH the lode in the 15 south, and the prospects at present are very favourable for further improvement. At SOUTH CARADON WHEAL HOOPER, in the 62 cross-cut, they have intersected the lode, which is looking very encouraging, producing some good stones of copper ore. At CALSTOCK CONSOLS the 45 ends have fallen off considerably, but they are looking more encouraging of late. The tin mines in the parish of Wendron and the locality are generally looking remarkably well, and presenting most excellent prospects. The drop in the standard of tin will have a considerable influence on the profits, but it is hoped that the decline is only temporary. BASSETT and GRILLS is opening out exceedingly well, and affording much encouragement and satisfaction to the shareholders generally. At WENDRON CONSOLS the prospects are improving, and the reserves not lessened, with strong indications of improvement. This quarter will give its customary returns of tin, and dividend to the adventurers. WHEAL VALVES (formerly Trumpet Consols) is opening remarkably well, and will make a good dividend mine. At PROSPERITY the lode is very much reduced in size, although producing a little tin, but nothing to represent the great value placed upon it some months since. The stamps are now at work, which will, of course, shortly demonstrate the value of the lode, and the correctness of former reports. NEW WHEAL VOR and EAST WHEAL METAL have improved in their bottom level, which will give them an increase of tin at their next sale. At HENDRA (Bread) the engine is keeping the water well, and they are laying open some excellent tin ground, with general good prospects. WHEAL METAL there is a general improvement in the shaft and eastern levels, and there is little doubt but good returns will be made. At SITNEY WHEAL METAL they are making rapid progress in sinking the engine-shaft. They expect to reach the 95 by the end of the present month. In the 70 they have a lode worth 20l. per fm., with every prospect of a further improvement. At GREAT WHEAL FORTUNE they have a great and general improvement on the Carmeal lode, in some places it is worth upwards of 100l. per fm.

At WHEAL SITNEY and CANNWELL the prospects are highly encouraging. The engine-shaft has been set to sixteen men, to sink 10 fathoms, at 20l. per fathom. The bottom level is a very productive one, and the lode in the 15 and 16 is 3 ft. wide, good work for tin. The stopes tribute department continue the same as for some time past. They intend to put their flat-rods to work on Friday (yesterday) for the effectual working and development of the Carmeal lode. They sold on Tuesday last 10½ tons of black tin (in the stone), which realised 568l. 10s. 7d., and had it not been for the drop in the standard it would have realised upwards of 700l.; the average quality of the work being very good. At WHEAL ROSE they have intersected the lode in driving the cross-cut, which contains good stones of lead. GREAT WORK: It is the opinion of those well conversant with the mine that if tin should advance to its former standard it will in the course of the year realise its former dividends. JAS. LANE.

From Mr. EDWARD COOKE.—The market has not undergone much change during the past few weeks, and while we cannot record a very active business, still, on the whole, there is not much cause for complaint. The very depressed state of the metal market has materially affected the profits of mines, and caused a great reduction in the price of really good stocks. To the speculator who is disposed to operate for the chance of by-and-by realising a large profit on his capital, the Mining Market just now presents a good opportunity. We are not always to experience such a tight money market as the present, and we have reasons for believing that the end of April will witness a more favourable state of things in the monetary world. Securities of all kinds have for a long time been depreciated in market value, owing to the high rate of discount, hence a great rebound may naturally be expected on a relaxation of the Bank rate, and no market would be more beneficially affected by such a result than that for metals. There has been considerable speculative dealings in some of the most popular mines—EAST CARADON, STRAT PARK, and NORTH TREKERRY, the whole of which have receded in price. EAST BREA, TINCROFT, NORTH BASSETT, and WHEAL MOYLE shares have been largely dealt in at advanced rates. Having attention fixed on the latter mine on Friday last, it may not be uninteresting to state a few facts relating to its present and future prospects. I have on former occasions written very confidentially about the merits of this property, and I have not the slightest hesitation in pronouncing it to be one of the most legitimate and certain speculations in Cornwall. There is a map of the mine published, showing its relative position to the greatest mines the county has ever produced. By a glance at this, which is taken from the parish map, it would appear to be next to an impossibility that it can fall to become a dividend property at no distant period. The engine works exceedingly well, and the mine is dry to the bottom. The winze sinking the lode in the county adit will produce 35l. per fathom for tin, and can be wrought at less than 2l. In about a month a winze will be commenced in the whole ground under the adit, when no doubt of returns of tin and copper being immediately made from it. The UNITED MINES have returned about 600,000l., and WHEAL SETON 70,000l.

The lodes of both these mines traverse the sett of Wheal Moyle, therefore we are justified in expecting similar results from the latter mine. If any one doubts the accuracy of what we state they can send any agent they please, and he will receive every facility for inspecting the mines. The price of the shares, about 35s. to 37s. 6d., and it is confidently anticipated that no further call will be required. We have been thus explicit, although rather lengthy, in order that the shareholders and the public generally should know the true position of what will be, without doubt, one of the greatest prizes of the current year. The district in which Wheal Moyle is situated is one of the finest fields for mining enterprise in England. The adjoining mines, Ting Tang and Wheal Jewell, although having yielded several hundred thousand pounds in profits, are considered by almost every practical man that knows the locality to be only partially developed. Here, then, is an opportunity for capitalists to form a company, with a capital of 20,000l., to fully explore the Cornish and Wheal Jewell district. This would be no ephemeral scheme, but one that in all probability would well repay any outlay required for the purposes above named. Already it is in contemplation to work these mines, and we have no doubt that success will attend the operations.

While in Cornwall, we visited SCORRIER CONSOLS and EAST TREKERRY. At both of these mines everything is going on well; and although the calls of late have been comparatively heavy, they will be lighter for the future. The machinery at the latter mine is nearly all erected, while at the former an engine is bought, for which there are ample funds in hand, and to pay for all the requisite machinery. The shareholders in these respective mines may rely on it that everything is going on satisfactorily with regard to their interests. In the locality of Scorrier Consols a mine has been commenced, called TRELAUGH CONSOLS. A small shaft is being sunk, and is now a few fathoms deep. The produce of this shaft is drawn to surface by means of a windlass, which appears to be ample for all present requirements; in fact, it would be injudicious to erect any more costly machinery until the value of the lode they are sinking on has been better ascertained. The report from BRYN GWIOG states that the 135 yard level will produce 1½ ton of lead per fm. The shares both of this and WEST BRYN GWIOG have been in good demand at advanced prices.

FOREIGN MINES.

ALTEN AND QUENANGEN MINES.—Estimated produce for Jan.:

Mines.	Tons.	Ore.	Per cent.	Copper.
Quenangen	75	14	.....	3000
Ralspa	14	.....	6½	0910
Old Mine	112	.....	4½	5040
United Mines	14	.....	5½	0770
Michell's	3	.....	6	0280
Thomas's	2	.....	6	0120
Quenwig	4	.....	6	2240
Total	Tons 324			13260

ALTEN AND QUENANGEN MINES.—Estimated produce for Jan.:

Quenangen.—Lode 2: The stopes below the 25 continue to yield satisfactory returns, where the lode varies from 3 to 6 feet wide, worth fully 5 tons of ore per fm. In the west end of the stopes, below the 15, the lode is somewhat smaller, but still yields on an average 2½ tons of ore per fm. The 10 fm. stopes west continues bunched, but the lode turns out 3 tons of good work per fm., and looks promising. The deep adit easterly is still without any ore of consequence, but the lode is well defined, and the strata of a congenial description. The lode in the shallow adit is smaller and less productive than when last reported. This place has been bunched throughout; we, therefore, expect a favourable change will soon be met with again. The stopes above this level is now set on tribute, which we deem the most economical mode in such a changeable lode. On lode 3 the men are employed at present exploring some ore branches striking off in the sides and east end. The matrix still contains a large intermixture of magnetic iron. The pitches on C, D, and Wilson's lodes have not undergone any alteration worthy of remark. The quality of the ore produced therefrom is good, and the prospects are encouraging. We propose starting this evening to visit this place.

RALSIPA.—The stopes below the 30 yields about 2 tons of good work per fm. A large fissure, striking south-east and north-west, has recently been met with; the space between the walls is filled with a clayey substance, which is highly stained with the carbonate of copper; altogether the appearances are promising. The shoot of ore about the 10, on the lower lode, is about 9 in. wide, of very good quality. On the same lode, in the shallow stopes, the leader of ore is still small, and should it not improve shortly we shall remove the men to another part of the workings. In the 10, north-westerly, small veins of purple ore are met with, and the ground is of a promising description.

OLD MINE.—Good progress is being made in the midway cross-cut, which is cleared 15 fms. from the main level. The lode continues large in the 10, southerly, yielding from 3 to 4 tons of ore per fathom. The stopes on the west side of this level turns out about 2½ tons of ore per fm.; the lode here is large, but has been rather coarse of late. In the east stopes the lode is 8 ft. wide, composed principally of capel, with 3 tons of ore per fm. Intermixed. No. 1 foot stopes still looks well, where the lode is 7 feet wide, worth 4 tons of ore per fm. In the 10, northerly, the lode is 6 feet wide, composed of quartz and muddle, with a leader of saving work against the hanging wall 1 foot wide. The lode south of the rise is 5 feet wide, yielding 4 tons of ore per fm. In the level north the lode is divided by a horse of greenstone, both parts containing saving work; the level being in the middle, and having no walls, prevents us from stating the size of either. I am glad to say that we broke through to the winze yesterday; our surveys proved quite correct; by the end of this week we shall get the ground squared, &c., after which arrangements will be made for future operations, which can now be carried on with great advantages. In Carr's adit the ground is somewhat improved, though as yet not to the extent desirable. The driving is only 2 fms. monthly.

WENDRON.—The lode in the 40, on Ward's lode, is looking promising, the lode being 2 feet wide, worth 1½ ton of ore per fathom. In the 40 level northerly the lode is 6 in. wide, chiefly composed of a friable quartz, which is highly stained with the oxide of iron; water still issues freely from it. The pitch on Michell's south lode looks promising, where some good work is being raised; there is a great extent of ground here. The leader of ore on Thomas's lode has dwindled down to a mere thread, and as everything is buried in ice and snow I fear we shall not be able to open up another part until the return of summer. The small lode at Quenwig contains good quality yellow ore; but the operations here are also much impeded by the winter.—C. TRELAUGH.

LAGUNAZO SULPHUR AND COPPER COMPANY.—T. ROSKROW, Puebla de

Guzman, March 2: I beg to hand you the report of this mine for the month of February. In consequence of the heavy rains, we have not been able to do so much work as we should otherwise, as the increase of water and the falling in of the sides of the open workings in the lake give us a great deal of extra labour; but I am happy to say we are now in a fair way of working, and have cleared out a large space, in order to sink under the shallow adit, and have sunk about 3 ft., and I hope this month, when we cut the water with the borer, if the weather is fine, we shall be able to sink under this, and also clear out a great space in the Lake to the level of the shallow adit; and now the weather is settled I intend working night and day to sink into, on account of the water, so as to have our works free, and to be able to do as much as possible with more hands by day, as it is a work that cannot be stopped a moment until we get down to fix our pumps. I am most anxious for the arrival of the pumps from England, when we shall be able to keep the water, and get down to work easier; and we shall now do all we possibly can to get at the ore to see its value and probable quantity before we go to any other expense. The level 25; the lode in the 25, which is a good lode, is looking promising, the lode being 2 feet wide, worth 1½ ton of ore per fathom. In the 40 level northerly the lode is 6 in. wide, chiefly composed of a friable quartz, which is highly stained with the oxide of iron; water still issues freely from it. The pitch on Michell's south lode looks promising, where some good work is being raised; there is a great extent of ground here. The leader of ore on Thomas's lode has dwindled down to a mere thread, and as everything is buried in ice and snow I fear we shall not be able to open up another part until the return of summer. The small lode at Quenwig contains good quality yellow ore; but the operations here are also much impeded by the winter.—C. TRELAUGH.

THE ORIGIN OF COAL OIL.—At a meeting of the Manchester Geological

Society, Nov. 20, Mr. E. W. Binney, F.R.S., F.G.S., read a paper on "Dorin Holland Moss," in which he discussed at length the origin of coal oil. His views coincide exactly with those of Dr. Stevens, published in the *Scientific American* (p. 370), and those views were generally supported by the society in the discussion which followed. After considering and rejecting other explanations of the origin of the coal oil, Mr. Binney says:—These circumstances led to the conclusion that it is produced by the decomposition of the upper bed of peat, which is covered by the sand. Mr. Dr. Stevens, F.G.S., said that he had been led to this conclusion by observing mineral pitch or petroleum oozing from a stratum of coal in his pits, distillation having taken place in the bed where external heat could have no influence. Mr. Binney stated that "Petroleum, or rock oil, is found in various parts of the world—in the Burman empire, on the banks of the Irrawaddy, are powerful springs of it; it is abundant in Persia; it occurs in Barbadoes; at Tegernsee, in Bavaria; in Auvergne, near Clermont; in Switzerland, near Neuchâtel; at Amiano, in Italy; and in Sicily; and near the volcanic islands of Cape de Verde the sea is sometimes covered with it. It will be remembered that Dr. Stevens's explanation of the origin of the coal oil was that the coal or other carbonaceous deposit is decomposed by the operation of natural forces, producing results similar to those which occur when coal is distilled in a retort for the artificial manufacture of oil. Some difference of opinion was expressed by the members of the Manchester Society, in regard to the necessity of external heat to effect the decomposition of coal. Some geologists believe that the decomposition takes place spontaneously from the natural disposition of the elements of organic compounds to fall asunder.—*Scientific American*, Feb. 23.

COAL IN ANGLO-SAXON TIMES.—Britton, in his description of Peter-

borough Cathedral, renders into modern English the following paragraph, taken from the Saxons Chronicle of the Abbey of Peterborough:—"About this time (A.D. 852) the Abbot Coelred let to hand the land of Sempringham to Wulfred, who was to send each year to the monastery 60 loads of wood, 12 loads of coal, 6 loads of peat, 2 tons full of fine ale, and two nests' carcasses, 600 loaves, and 10 kidderkins of Welsh ale, one horse also each year, and 30s., and one night's entertainment." How Wulfred was to send the provvident Abbot 200 night's entertainment! It is not necessary for our purpose to enquire; but this statement of the chronicler is highly valuable, as establishing the fact that coal was at this early period an article of household consumption. It may also have been made use of by the monks, who were the artificers and craftsmen of their times in the manufacture of metal-work for the churches and monasteries. In connection with this period, it is matter for discussion whether our term "coal," which is evidently identical with the German "kohle," has been derived from our Saxon ancestors, or whether, on the other hand, the Germans have derived it from us. It is probable the term was in general use before the invasion of the Normans, otherwise the French or Latin name would, in all probability, have been adopted. The Saxon name *col* (now coal) appears to have superseded the old British name *glo*, and if introduced into Britain at the colonization of the country by the German tribes, it is in favour of the supposition that the art of coal mining was practised in Europe during the first centuries of the Christian era.—*Hull's Coal Fields of Great Britain*.

NEW AND CHEAP BLASTING-POWDER.—A patent has been taken out

in Belgium for a simple method of making blasting-powder from spent tan bark. It is said that while the price of this powder is less than that of gunpowder, it takes but one-seventeenth part as much to produce the same effect. It is composed of 52½ lbs. of waste tan bark, and 20 lbs. of pulverised sulphur. The nitrate of soda is dissolved in a sufficient quantity of boiling water, and the tan bark added in a manner to completely impregnate it with the solution, after which the sulphur is added in the same way. The mixture is taken from the fire and thoroughly dried, when it is ready for use. If it is wet, it does not burn, but on being dried again it is as good as ever. If fired in the open air, it causes no explosion, but is very efficient for blasting when confined in the usual manner. It is not suitable for use in guns or cannon.

Mining Correspondence.

BRITISH MINES.

ABERDEEN.—A. Edie: There is no alteration to notice in sinking of the engine-shaft. The south lode, at the 32, is emitting a great quantity of water, and has every appearance of improvement; the slope in the back of this level, near the junction of the lode, is producing about 1 ton per fm.; the slope on the main lode, at the same level, is producing 1½ ton of ore per fathom. We are still very short of hands, both at surface and underground.

ALFRED CONSOLS.—S. Uren, T. Hoaking, March 13: Davy's engine-shaft, sinking below the 150, is producing good stones of ore. The main lode, in the 150, driving east of said shaft, is without change. This lode in the 140, driving east of the above shaft, is 4 ft. wide, producing good stones of ore, but not to value. This lode in the 130, driving east of said shaft, is worth 20¢ per fm. This lode in the 120, driving east of the above shaft, is improved in appearance, now 18 in. wide, worth 12¢ per fm. The north branch, driving west of cross-cut, at the 130, is 6 in. wide, unproductive. Roberts's lode, in the back of the 140, east of said shaft, is worth 12¢ per fm. Floyd's lode, in the back of the 130, is worth 30¢ per fm. Rodda's lode is worth 25¢ per fm. Richards's lode, on the north branch, is worth 15¢ per fm. The rise in the back of the 120, on the north part of the main lode, is worth 10¢ per fm. No other change to notice.

ANGARRACK CONSOLS.—James Barratt, March 13: The 24 south cross-cut is advanced 57 fms. 4 ft. from Cox's engine-shaft; the end is rather spare for progress, and discharges considerable water; however, I think there is a perceptible change in the ground for the better. We continue to intersect various quartz branches, impregnated with munda, and I believe we shall soon see a beneficial change at this point.

BALLYVIRGIN.—T. De la Hunt, March 7: North End: We have ascertained the true rock of Rathcloney hill, and after sinking 3 ft. so as to prove its solidity, we came on a flooken of clay running through the centre of the shaft, with strings of lead and spar underlying west. The slopes have been suspended for the last week, confining the underground work to the hands employed conveying the broken or quarried ore to surface. We have dressed and put to pile 1 ton of first crop lead, ½ ton of second crop lead, ½ ton of first crop copper, 1 ton of coppery ragings, 4 tons of coppery munda, 6 tons of plain munda, and prepared for the crusher 3 tons of first crop lead ore.

BAMPFYLDE.—J. Pope, March 11: In the lode U, in the 60 west, there is a small soft branch coming down from the back of the end, dipping west about from 25° to 30°; to the west of this there is more quartz and felspar than there has been, with occasional spots of copper. The lode appears to be wider to the west of this soft branch, but as this branch is not yet got down to the bottom of the end to about 2 feet, I cannot say much about the change in the lode, but from its appearance I hope there will soon be change for the better. We have put in the divisions in No. 4 shaft from surface to the adit, and commenced putting in the casing-plank. We had to cut down some of the end of the whim-shaft for about 2 fathoms this week, it being too narrow for the kibble to work in, but I think it will do very well now. We are now busily engaged making poppet-heads, or shaft-tackles, for the steam-whim; we are also making a cart-road across the heaps of rubbish taken up by the old workers, to the west of No. 4, so that we shall not have to pay for a road across the meadows, for taking coal, &c., to No. 4 shaft. We have levelled some rubbish in No. 4 for room to leave the chimney; after this is fixed I think it will be a good place for a coal-shed, by rough paving it, and then we should require to take but little ground from the field for any purpose. I hope to sample the tributaries on the mine to-morrow, and commence sending it to Barnstaple on Thursday. [The tributaries continue in old pitches, and are just about covering costs. The lode U, in the 60 west, has been driven upon until it is now opened close to that part which made copper in the 40. The engine and machinery were sent off from Manchester early in February, but have been and are delayed by the carriers, but it is expected that they will be sent on without further delay. The foundation, buildings, and other preliminary preparations, are all completed.—C. HAND, March 14.]

BEDFORD CONSOLS.—Capt. Mitchell, March 14: In the middle adit level the No. 1 south lode is about 15 in. wide, composed of capel, munda, fluor-spar, and will yield ½ ton of copper ore per fm., a kindly lode. The ground in the cross-cut, towards the No. 2 south lode, is better for progress. The tributaries' pitch, in the back of the 37, is poor, and the men have given it up.

BENEATHWOOD.—J. Lean, March 14: I expect the engine-shaft will be down its required depth for the 40 fm. level by Saturday next, so as to commence cross-cutting to the lode the following week. If the lode continues its underlie as above, we shall only have to drive about 40 fms. to meet it. The lode in the 20 end is much the same as reported last week—a flooken on the western side, 12 in. wide, mixed with munda; and on the eastern side—a harder part, 15 in. wide, composed of quartz, priam, munda, and lead.

BOSWORTHEN.—T. Harvey, March 7: In sinking the shaft on Gear's lode, a further improvement has taken place; they are breaking tinstuff worth 2s. per sack. We have also discovered some good tinstuff in a shaft unused for many years. Our tribute pitches continue as last reported.

BRONFLOYD.—M. Barbary, J. Lester, March 13: We have succeeded in setting the engine-shaft to sink from the 13, below adit, by nine men, 11 fms. certain, to carry it 10 ft. in length, by 6 ft. wide, to cut ciern-plat, put in bearers, ciern, and to fix standing-lift for 100¢, as per bargain. The No. 1 lode in the 17, west of cross-cut, has a promising appearance, and is yielding saving work for the width of the level. The No. 4 lode in the slopes, on the whole, is yielding its usual quantities of ore. Dressing, &c., as usual.

BRYNFORD HALL.—T. Pierce, March 14: Hammersley's Vein: The south-east end of this vein is very hard, and the vein very small, so we have stopped it.—Needham's Pump, on Hammersley's Vein: The vein in this pump is very fair and very promising, but we expect to meet an improvement every day.—100 yard level, on Miller Vein, west of Brynford Hall: This level continues rather hard. We are following the heading side of the vein, on which we get small ribs of ore lining its side.—North Cross-cut from Pae's Shaft: There is no alteration in this since last reported upon.—Bostock's Vein: This vein does not appear so well at present as it has done, but we are in ore ground, and can expect an improvement. All other parts of the mine are without the least alteration since last reported upon. We have sold to-day at the Holywell sale 11 tons of lead ore, at 13s. 9s. 6d. per ton.

BRYN GWIG.—J. Lloyd, March 14: The sinking of the engine-shaft has been suspended for the present, and the men are busily engaged putting pitwork therein, to enable us to pump water for dressing, &c., as well as to be in readiness to meet any sudden rush of water too strong for drainage by the swallow, and which will be completed in the course of a few days, and sinking resumed. The 132 west is improving, and is worth about 1½ ton per fathom, and opens into a fine channel of white limestone as it goes on westward. The winze under this level, and east of engine-shaft, is worth about the same for ore as when last reported—that is, 4 tons per fathom. The two slopes above ditto have fallen off considerably, and at present not worth more than 1 ton per fm. No. 1 winze, under the 105, is pushed on with all speed to hole through into the 132; the end at present is not quite so ore, and is worth only about 4 tons per fm. of sinking. No. 2 winze, under the same level, has reached the bearing ground, and the water became quick, and we were obliged to suspend sinking until No. 1 is gone through into the 132, for drainage, &c. We cut about 2 cwt. of fine stones of ore from the very bottom of this winze, before suspending the 105; we only resumed sinking this week.

BUDNICK CONSOLS.—J. Evans, S. Mitchell, March 13: We attached on Friday last an additional 12 heads to our steam-stamps, and have now 36 heads in full operation, and are in a position to make good returns. The prospects of the mine throughout are much the same.

BULLER AND BERTHA.—T. Foot, Jun., March 11: The lode in the 45 east is 2½ feet wide, principally composed of flooken; the lode at this point is not looking so promising as it did a few fathoms below the present end. The lode in the 32 east is 3 feet wide, composed of quartz, munda, and good stones of rich lead ore. We propose to commence driving the cross-cut south in the 45 to intersect the south lode, and continue the driving of the 32 east towards the cross-course, as this (the 32) will prove the lode now wrought on, and the cross-cut south in the 45 fathom level will prove the south lode at the same time.

CAMBORNE CONSOLS.—Wm. Roberts, March 12: In the rise in the back of the 50 the lode is about 1 ft. wide, producing ½ ton of ore per fm. Nothing new in the cross-cuts.

CARADON CONSOLS.—W. Rich, March 12: I have nothing new to report on this week. The ground in the cross-cuts north and south is much the same as it has been for some time past. In going north we find the end getting wetter as we advance; this appears as if we are nearing the Menadue lode. The cross-cut south has been extended 7 fms. 4 ft. 6 in. during the past month, and the north end 5 fms. 4 ft. 6 in.; these ends are being forced by six men in each as fast as possible.

CARDIGAN CONSOLS.—J. Sanders, March 9: In reply to your letter of the 5th inst., I beg to say that Quarry shaft is 5 fathoms deep, with good stones of ore in the lode; although it is called a shaft, it is only some old workings, which we shall commence at once to cut down, and make a proper shaft of it, and in the mean time we shall put up a line of rods and other necessary things preparatory to sinking. I expect to commence sinking the shaft in about a month.

CARDIGAN CONSOLS.—J. Sanders, March 11: The 30 east is still in unsettled ground, and the lode poor. In the 30 west the lode has been hove by a cross channel of ground, but I am glad to say that we have cut through it, and the lode at present is looking very promising, with good stones of copper ore in it. The 20 west is yielding a little ore, but not sufficient to value. The lode when last taken down in the winze was worth 12 cwt. of ore per fm. The slope in the back of the 20, over the winze, is about 5 fms. above the level, and the lode at present is unproductive. The copper slope, in the back of the same level, is up to within 6 feet of the 10, and the lode at present very poor; we shall now lengthen this slope about 2 fms. in the back of the 20, to see how it will prove in that place, and another slope will be opened in the bottom of the 10 east, where the lode at present will yield 8 cwt. of ore per fm. The lode in the 10 west is yielding a little ore, but not sufficient to set a value on as yet. Saturday being our pay and setting-day, the following bargains were set:—The 30 to drive east by two men, at 5¢ per fm. The 30 to drive west by six men, at 6¢ per fm. The winze to sink below the 20 west by six men, at 9¢ per fm. The 20 to drive west by four men, at 7¢ per fm. To stop in the back of the 20 west by four men, at 3¢ per fm. The 10 to drive west by four men, at 6¢ per fm. The slope in the bottom of the 10 east is not set. We shall commence at once to put up a line of rods, and do other necessary work, to sink Quarry shaft as soon as possible. We have sampled to-day 9 tons of lead ore.

CATHERINE AND JANE.—F. Evans, March 12: We are sinking the engine-shaft pretty fast, and it is necessary we should have the latter part of next week, or not later than the beginning of the following week; if we can get them by that time we shall feel better. There is nothing worth reporting, except that the 10 west is a shade better, and looks promising. Other places poor.

CRADDOCK MOOR.—H. Taylor, J. Taylor, H. Phillips, March 13: Vercoe's Lode: The slope in the back of the 84 is worth 2½ tons of ore per fathom.—Vivian's Lode: The 42 west is producing good stones of ore. The 52 west is worth 1½ ton of ore per fathom. The 72 west is worth 1½ ton of ore per fathom. The 82 west is producing stones of ore. The slopes in the back of the 84 are worth 2½ tons of ore per fathom. The slopes in the back of the 72 are worth 2 tons. The slopes in the back of the 62 are worth 2 tons; and the slopes in the bottom of the 52 are worth 2½ tons of ore per fathom.—Gerald's Lode: The 62 west is worth 1 ton, and the 62 east is worth 1 ton of ore per fathom. The lode in Harris's shaft contains good stones of black and grey copper ore.

CROOKHAVEN.—A. C. Langton, March 11: I have had the boiler hoisted up out of its bed, turned, and eight new boiler plates, ¾-in., put on the bottom, besides three or four ¾-in., and several smaller ones. The two ends of the boiler have also been repaired. Altogether I have had about 1000 rivets put into the boiler; whilst the riveters were engaged, I refitted the seating of the valves of the engine and ground the valves true. I also took up the hot well, and jointed it afresh; putting it together with new nuts and bolts; this was very much wanted, as it would scarcely hold water, and could only be done when the engine was stopped. The rod connecting the sweep-rod with the balance-bob has been made twice as long as it was, which has given great ease to the linings, and causes the engine to work steadier. The boiler makers went back to Cork on Thursday, 7th inst.; whilst they were finishing, I had the blocks and tackle fixed, so that the boiler could be lowered into its place the instant it was completed. I also had it filled, to see there was no leak in it. I then had the masons set to work to close the dyes, &c.,

they worked unceasingly till they had finished. Meanwhile I had the joints of the man-hole and steam-pipe, &c., finished. The fire was lighted on Saturday, and the steam was up, and the engine working on Sunday afternoon. It now works much steadier, and better than it has ever been known to do before, and by the time you receive this the shaft will be clear of water, and the sinking proceeding vigorously. Everything is now in first-rate order, and going on well.

CUDDEA.—J. Webb, March 13: The engine is working in first-rate order, and the water forking very satisfactorily. I expect by Thursday evening the 40 will be dry, and shortly after the shaft will be resumed with a good staff of men. We shall soon require timber to divide and case the shaft to the 50, and some pumps to make the lift complete, a great part of which is on the mine. From the effective state of the machinery, I anticipate no let or hindrance for a long time to come, and that everything will go on smoothly.

CUDDEA.—J. Webb, March 14: We have drained the 86, and find it extended 6 or 7 fathoms west and 30 fathoms east; there is a good deal of copper lode standing here, but, being so full of mud, we cannot examine it minutely for a few days. We find the 76 extended 6 fathoms west; we can go a few fathoms east, where it is broken down; much of the lode is taken away in this level on the copper run, where we find a piece of lode standing. It is a large, promising lode, and, from every appearance, will make a deep and lasting run of copper. We shall be able to report more particulars next week of the 86, and shall soon have the 96 drained; we calculate having 6 or 7 fathoms of shaft to clear to reach the 96. I expect we shall find all that space full of rubbish; we have made good progress since starting below the 66. The men are progressing well in the 66 in putting back the slope west towards Walker's shaft. In the 56 we find a large tin lode 12 fathoms in length, worth 3 cwt. of tin per 100 sacks, in the bottom of this level, just immediately over where it is reported good for tin in the 66; this promises to be a good piece of ground. In the 30 we are now ready to take down the lode, having cut out the kiln, and it is for 10 fms. in length and 16 feet high. In the 30 we are still driving west under the lode in good kiln. In the 10 we are nearly ready to take down the lode here, having a large piece opened out. We have communicated the new shaft to the rise from the back of the 10; the dialling was perfect. This shaft only took five weeks to make from surface to the 10, a distance of 26 fathoms. The engineers are busy putting up the steam-stamps; the bob is in its place.

COLLACOMBE.—S. Mitchell, March 12: The sinking in the bottom of the 96 is progressing well, and the lode worth 2½ tons of good copper ore per fm. The driving of the 96 west, and the 62 east of Morris's engine-shaft, will be resumed this week. The pitches have a little improved. The water-wheel and its attachments continue to work most satisfactorily.

CORNUBIA.—W. H. Gray, March 11: I am now able to report the engine-house within 8 ft. of completion, and during the week the roof will be on, so as to enable the engineers to get to work immediately afterwards; I have little doubt of starting the engine with the pitwork, rods, &c., by the first week in May, for going on with the new or western shaft to the 30, and at the same time we can put into operation the connexion hole and flat-rod attached eastwards for effective working. By this arrangement it will be seen, that whilst we avoid the risk and doubt consequent upon erecting the engine, &c., on the (eastern) end of the mine, from the want of proper foundations, and the double inconvenience of having to work entirely through so small a shaft, we have thus put ourselves in possession of a working pump, 100 fms. west of the former working, which will have reached the 30, 40, or perhaps 60 fm. level before the old end can be extended far enough in this direction for communication. As time progresses, these several points will be accomplished, and the lode brought under the direct influence of the engine, having the flat-rod free to keep down the eastern limits to, at least, double the present depth. But apart from these considerations, which would alone justify us in the course laid down, we have many very important objects to realise, and which, judging from the most complete circumstantial evidence, warrants the belief that long before the old shaft and level can be laid open we shall be in possession of an entirely new piece of valuable tin ground. These conclusions are drawn from reports and other evidence, distinctly showing the condition and value of almost every end going west from the old shaft; the knowledge that one of the lodes only 10 years since was worked on within 30 fms. of the new shaft, and that the yield of tin was considerable, and continuous up to the moment of suspension. The power used being the same temporary method we have employed to get the engine-shaft down only a few fathoms. Geologically the position is still more favourable, inasmuch as the nearer approach of, and consequently earlier junction with, the granite will afford a second intersection with the lode, under (to say the least) equally hopeful circumstances as attended the operations east, with the having 200 fms. of ground to extend east and west, and a lode standing entire from the point of intersection, say, 30 fms. to the surface. A reference to the small lithograph map accompanying the prospectus will explain the matter fully, as the curved line, marked granite, runs out north (as proved by the levels coming west), and there can be no doubt of the great prospective value these facts give the mine. Several months must necessarily elapse in draining the shafts and the several levels of the eastern mine; and although no doubt can be entertained that we shall make regular returns of tin hereabouts, even long before new ground is reached, yet I anticipate the production of just as much tin from the ground westward, and that at a far less cost, than I could expect to realise from the development of the eastern mine, and the erection of a perfect plant, without which we can hope to do but little in the way of rapid supply and economical reduction. The shaftmen are still working in beautiful ground, but the want of power will soon compel us to cease till after the engine is going, when, I have no doubt, valuable discovery will soon follow. I have written these remarks hastily, but hope they will satisfy all interested in our progress, and convince them that in the Cornubia they have a mine well worth their attention, and a legitimate scope for their capital; an undertaking that was productive when prices ruled low, and with the present standard for tin cannot fail to do well. I invite the shareholders to canvass the merits of the mine as an investment, and think they will not hesitate to find money for putting it in the necessary condition.

CUMBERLAND BLACK LEAD.—A. Tregoning, March 11: Having carefully inspected the above mine, and made enquiries as to the present value of the plumbago obtained from it, I beg to report that I consider the undertaking one of great promise, and value, and believe that by a judicious expenditure of comparatively a small amount of capital to extend the adit levels and workings, great results may again be obtained from this ancient and celebrated mine. The section and plan which accompany this report show the favourable position of the mine, in the side of a steep mountain, for being inexpensively opened and worked by a series of adit levels, and the nature of the workings hitherto made, from which enormous profits have been from time to time realised, by the discovery of what is technically termed a "pore of wad" (a rich elongated deposit of plumbago), which is frequently found near the junction of two veins, or traced to its site by indications peculiar to it, and which the plumbago found in these pipes is the purest and most valuable ever discovered in this or any other country, and, from enquiries I have made of the purchasers, I am informed a high price could still be realised for it. The trials of discovery which the Messrs. Dixon strongly recommended being at once undertaken, and of which I approve, are as follows:—First, to continue the rise from the back of Robson's level to meet Hastings's pipe (see section) sunk on below Gilbert's level; the distance between these two points is about 17 fms., to accomplish which the aid of an air-machine will be required. The cost of making this important trial will probably be at the rate of 15¢ per fathom, in addition to the cost of repairing 100 fms. of Robson's level, which we think would amount to about 50¢. Second trial is to continue the works now being made by four men to prove a pipe of Farey's stage, below Giles's stage, near the grand pit excavation. It is estimated that 50¢ will accomplish this in three months. Third trial to extend Giles's stage level beneath the waddy pipe discovered in an adit level above, called "common stage," which would require this level to be driven about 80 fms., at we think, a cost of 10¢ per fathom; and the laying of tramway, air-machine, &c., would probably amount to 100¢. Fourth, various trials by short cross-cuts in different parts of the mine, to prove points of considerable promise, which, we estimate, from 500¢ to 600¢. Fifth trial, to continue the sinking below Giles's stage, where the plumbago now in London and at the mine was taken during the past month by four men, amounting to about 40¢ lb. of first quality wad, and 140 lbs. of second quality, which, at the present value of 2s. 6d. per lb., and 1s. 6d. per lb., and the second at 10¢ per lb., would give a total amount of 471. 2s. 6d., for which we should, for labour, would leave a profit of 271. 2s. 6d. Should the favourable indications continue at this point in going down, it might be proved by cross-cuts from Rhodye's and Farey's levels, which would cost about 80¢ each, and require about three months each to drive. The sinking will cost, we estimate, 50¢, and may be done in the same time. The total estimated expense of making these important trials is about 2000¢, which should be provided for this purpose, although it may not be required, as the promising discovery referred to above may only be the commencement of a large and productive pipe, or it may continue to wear a favourable appearance without yielding another pound of the best quality. It would, therefore, be advisable to at first provide the above amount, though it is more probable that discoveries may be made to meet the expense after the trials recommended have been opened. I have the highest opinion of the merits of this enterprise, and strongly recommend operations to be at once vigorously commenced, for a correct idea of the great promise of the undertaking can only be arrived at by comparing the value of the mineral it produces to that of any other kind, and the great chances of success for the small outlay required. Should the sample I have brought from the lead lode within the limits of Borrowdale set be found by assay to yield a good result for silver, I should recommend further trials to be made on it.

J. Dixon, March 12: The mine is looking most promising; the appearance is so much improved that I will not doubt but in a day or two I shall have most important news to report. It is no more than what I expected. I have told you my opinion before, and I now believe it will be realised. Before the end of the week I fully expect to complete the communication between Stuart and Thompson's pipe, when we shall have two places producing wad at the same time.

J. Dixon, March 14: The waddy pipe has wonderfully improved since my last, and continues to improve every day. It is not of large compass as yet, but in all probability, if it increases as it has done the last few days, it will greatly enlarge. The quality is very good. I have not yet succeeded in selling any of the wad on hand, although I have informed the pencil makers at Kewick of it. We have not completed the communication between Stuart and Thompson's pipe, but I expect we shall do so very soon, when I will inform you of the result.

DEVON AND CORNWALL UNITED.—T. Neill, March 13: In the deep adit level the lode continues large, and, in the looking very promising. In the Midway level, driving west of Beall's rise, the south lode is large, very promising, and producing 3 tons of ore per fathom. In the Midway level east we have commenced cutting through the lode. The two slopes in the back of this level are producing respectively 4 and 2 tons of ore per fathom. At William and Mary, in the 10, east of engine-shaft, the ground continues favourable for driving, and the lode worth 2 tons of ore per fathom. There is a slope working in the back of this level; lode worth 2 tons of ore per fathom. In the adit level north and south on the cross-course, the ground continues favourable for driving. In the 12, west of water-wheel shaft, the lode is about 3 ft. wide, producing stones of ore.

DEVON NEW COPPER.—F. Hawke, March 13: The character of the ground in the engine-shaft, below the 68, continues to improve, and the lode still takes a more vertical position, a feature much approved in mining; the declination, or increased bending of the lode, wherever it occurs is often attended with better indications, and more frequently productive results. The ground east of 88, on the great north lode, maintains its mineralised character. The cross-cut into the great north lode in the 68 presents most cheering prospect; the composition of the lode is quartz, sugar-spar, and priam, with munda and yellow copper ore intermixed; every effort is being made to reach the northern portion of the lode as early as possible, which is a point of much interest. The cross-cut into the great north lode at the 58, 20 fms. to the west of the engine-shaft, is composed of capel, spar, and munda, with rich spots of yellow copper ore intermixed; the lode is improving as we progress with the cutting. The steam-engine, pitwork, &c., work well.

DULTA.—J. Martyn, March 13: I sent a box of tinstuff to the office at Liverpool yesterday, containing samples of the different lodes we have intersected. We expect shortly to cut two more lodes, when we shall put a new whim on the south shaft, and so be enabled to keep the steam-stamps constantly at work. All other operations are progressing satisfactorily.

EAGLEBROOK.—H. Tyack, March 13: As you were informed of all the particulars of our proceedings in our report to the general meeting, I had nothing to inform you of in addition last week. I now beg to say that in driving the 20 west we have got into good ground, does not require timber for securing it, the lode being composed of glass, carbonate of lead, and gossan, and I hope soon to reach the place where the lead is got down in the bottom of the 10. In stopping the ground in the back of the 20 the lode continues very large, and is producing a good quantity of lead ore. We have now got

so high in stopping this ground as to require stails or timber for the men to stand on, and which our men will be engaged about this week. In driving the 30, the cavity or vugh alluded to in the last report still continues, which is a great assistance in developing the ground. We have now some strong spots of lead in the lode, and we trust when the north wall is reached we shall find it very productive. As surface we are preparing the ore for the crusher, but as we have only six men engaged in stopping we can only procure limited quantities at present. All our machinery is in good working order.

EAST CRINNIS AND SOUTH PAR CONSOLS.—C. Merrett, W. Ople: In the rise in the back of the 112 east of Smith's shaft, the lode is 6 feet wide, and will yield 4½ tons of copper ore per fm., worth 6¢ per ton; we shall hole this lode a number of times during the month. In the 125 east the lode is large, containing a little ore, but not sufficient to value. The water is again in fork throughout the mine, and all the pares are again at work at their respective bargains. All other parts of the mine are without any material alteration.

EAST DEVON GREAT CONSOLS.—T. Richards, March 13: We have cut into the lode about 9 ft., and as yet no signs of the south wall, and from the capels and ore seen in the shaft above, I think there must be near 2 fms. more to drive. What we have driven through is of a highly promising character, and when the capel part is reached I have no doubt to find ore as well. We are preparing for sinking the shaft as fast as possible.

EAST GREENVILLE.—G. R. Odgers, March 9: The lode in the engine-shaft is nearly 4 ft. wide, composed of priam, gossan, and quartz, and which is worth 10¢ per fm., a very promising lode. The lode in the 25 east is 3 ft. wide, of quartz, gossan, and priam, with yellow munda, coated with black and grey ore. I have vanned a number of samples from this place, and they all yield tin; a kindly lode, worth I should say 7¢ per fathom. The lode in the 25 west is about 3 ft. wide, of priam and gossan, and is yielding good tinstuff. We shall commence stamping on Monday.

EAST GUNNIS LAKE.—W. G. Gard, March 13: Our produces for the ore now on the quays are—98 tons, produce 47¢; 58 tons, produce 34¢. According to the present standard this should fetch with carriage (which is always deducted by the smelters) about 5000¢.

EAST ROSEWARNE.—John James, March 9: The ground in the 55 cross-cut is a little improved for driving. In the rise over the 43 east the lode is 8 in. wide, and worth about 9¢ per fm. In the 43 west the lode is 1 ft. wide, of a very promising character, and worth about 7¢ per fm. The slope in the back of this level, and within 7 fms. of the end, is worth 15¢ per fm. In the 33 east we are opening tribute ground.

EAST TOLGUS.—March 13: Redruth Consols Lode: The lode in John's shaft, sinking below the 57, is 15 in. wide, looking a little more promising, producing good stones of copper ore and tin. In the 57 east the lode is 15 inches wide, composed of munda and jack, with occasional stones of ore. The lode in the winze sinking in the bottom of the 45 east is 16 in. wide, producing 1 ton of ore per fathom; this winze is opening tribute ground. In the 34 east the lode is 2 ft. wide, producing a little tin, and is looking promising for improvement. The lode in the 22 east is 18 in. big, at this present unproductive. The slope in the back of the 34 west, and adjoining John's shaft, is worth for tin and copper 10¢ per fm. The slope in the back of the 22, east of John's shaft, is worth for tin 9¢ per fm. The slope in the bottom of the 22, east of John's shaft, is worth for tin 12¢ per fm. We have cut a small branch of spar in the 46 cross-cut, north, 3 or 4 in. wide; we think the lode is still further north.

EAST WHEAL FALMOUTH.—W. Hancock, March 12: The new engine-shaft is below the surface 4½ fms., and the men now engaged putting in timber in the collar of it; we find the north side of it will require timber to secure it, consequently it will take a little more than we anticipated; size of shaft 10 ft. long by 6 ft. wide, within timber.

EAST WHEAL RUSSELL.—J. Goldsworthy, March 13: At Homersham's shaft, in the 110 east, the lode is 2 ft. wide, producing good stones of yellow copper ore. The lode in the 100 east is 4 ft. wide, composed of quartz, munda, &c., worth 1 ton of good ore per fm. The ground in the 108 cross-cut is improved for driving, and showing a 3 fms. to the end of the month; the cross-cut is driving by six men, at 5¢ per fm. The slope, west of Oates No. 2 winze, is worth 20¢ per fm. In the 88, east and west of Soper's cross-cut, on the north lode, the lode will produce 1 ton of good ore per fm. The lode in the rise in the back of the 77 is worth 15¢ per fm. In the 66, east and west of Thomas's cross-cut, the lode is large, producing good stones of ore. We shall commence a rise in the back of this level in a day or two, where the lode is likely to prove productive.

FOWEY AND PAR UNITED.—W. Pascoe, J. Treddinick, March 9: The cross-cut is 10 fms. north of Palmer's lode; in this driving three branches have been intersected, all of which are impregnated with tin; the branches underlie north, but at different angles, and vary several degrees in their bearing, so that they will form a junction with Lucas's lode in the eastern ground, as well as in depth. We have now about 3 fms. to drive to cut Lucas's lode, with a back of 17 fms., which we expect to accomplish by the end of the month; the cross-cut is driving by six men, at 5¢ per fm. The adit level is 10½ fms. east of Palmer's shaft, on Palmer's lode; during the driving the lode has varied from 1½ to 2½ ft. in width, yielding fair quality tinstuff, in places 2 ft. wide; driving by six men, at 5¢ per fathom. We are stopping the back of this level by two men, at 30¢ per fm., from which, with the work from the end, we expect to keep the eight heads of stamps constantly to work. The cross-cut adit will intersect three or four lodes to the north of Palmer's, the most northerly, with a back of from 25 to 30 fms.; as these lodes are intersected we can drive east on all or any of them, as their appearance may dictate. There are several strong lodes in the valley south of the adit, which can only be developed by the aid of drawing power. A 36 or 40-in. cylinder engine will be ample power to pump the water and stamp the stuff for some time to come, and which could hereafter be wholly applied for stamping when required. The engine-shaft may be sunk either on Palmer's or Lucas's lode, near the cross-course, which, no doubt, will be in easy ground; the cross-course will also afford great facilities for cross-cutting to the other lodes, both north and south, at moderate cost. It is scarcely possible to find a piece of ground of greater promise, and if it be vigorously worked we have no doubt but that successful results will be realised.

FURSDON.—J. Hampton, J. D. Daw, March 12: Herewith we beg to hand you the setting-list for the ensuing month:—We have lately met with a branch of ore in the 21 cross-cut, which seems to be running with the slide; the end is still very green, and a little more water issuing therefrom. We have put four men in the 11 east (taken two from the slopes) that we may reach the cross-course as soon as possible to lay open ground for stopping. The 11 west is worth full 1 ton of ore per fathom, and the lode is regular. The slopes at back of the 11, on Ellen's lode, are about the same in value, worth 4 tons per fm. Everything is going on satisfactorily, and we expect by another month to be sinking the shaft again.

GAWTON.—G. Rowe, March 9: The ground in the 36 west is good for progress; the lode continues without change to notice. The slopes in bottom of the same level are yielding 2 tons of ore per fm. The lode in the slopes in the 50 is worth 1½ ton of ore per fm.; No. 2 slopes, in the same level, 2 tons of ore per fm.; the slopes in the back of the 24, 1½ ton of ore per fm.

GONAMENA.—R. Pascoe, W. George, Jun., March 12: The lode in the 90, east of the cross-course, is 2½ ft. wide, worth 10¢ per fm. In the same level west the lode is at present small. In the 80, as we get off the influence of the cross-course mentioned in our last report the lode is again forming itself more regular, and from its appearance we hope soon to be enabled to report more favourably on it. In the 70 we have driven about 12 fms. through a lode worth on an average from 8¢ to 10¢ per fm.; at present it is not looking quite so well, but we hope this is only temporary, as the lode is subject to change. Our slopes are just as last reported.

GREAT CRINNIS.—J. Webb, March 14: There is not much alteration in the lode in the engine-shaft since my last; it is producing good stones of copper ore, with a promising appearance; we are sinking about 3 ft. per week. The 100 east is being pushed on, but we are not altogether free from the slyly ground as yet; the 100 east is being driven by the side of the lode; we shall go north some few feet further before we take down the lode. The ground in the 90 cross-cut is without much change—good settled ground. If we should fall in with a lode (we know the north lode is to the north of this driving, but we cannot tell in a few fathoms the distance) it is very probable we shall meet with the middle lode also here. I do not see much alteration in the slopes in the back of the 100 and 90 fms. levels—still yielding ore as before.

GREAT NORTH TOLGUS.—J. Pope, March 13: I have this day carefully inspected this mine, and beg to forward you my report.—Wheal Parent Lode: The engine-shaft is sunk below the adit level about 17 fms.; when the engine and pitwork are all completed for working, it is expected to intersect the lode about the 30; this lode, where seen at the adit level, for about 25 fms. in length, is from 18 in. to 2 ft. wide, composed of quartz, munda, and flooken, with stones of copper ore, in several places a very kindly lode.—Wheal Mary Lode: The shaft intended for a flat-rod will be complete to the adit level by the end of this week, when it is intended to sink it below at once; this lode can be seen in the adit level for nearly 150 fms. in length, and is

fathom. The south part of the lode in the 210 west is 3 ft. wide; there is a large quantity of water issuing from this part of the lode; this part is worth 121. per fm.; the principal part is still standing north, when left off was worth 201. per fm. The lode in No. 1 stop is worth 401. per fm.; No. 2 stop is worth 501. per fm.; No. 3 stop, 197. per fathom; No. 4 stop, 221. per fm.; No. 5 stop, 221. per fm.; No. 6 stop, 151. per fathom; No. 7 stop, in bottom of this level, west of Kemp's winze, is 8 ft. wide, worth 251. per fathom; No. 8 stop is worth 121. per fm. The lode in the winze sinking below this level is worth 401. per fm. The lode in No. 9 stop, west of the winze, in bottom of this level, is worth 301. per fm. The lode in No. 10 stop, east of shaft, in this level, is worth 121. per fm.; No. 11 stop, 121. per fm. The lode in the 190, east of Painter's shaft, west of cross-cut, is 5 ft. wide, worth 101. per fm. There is no change in the 160 cross-cut. South Lode. The lode in No. 1 stop, in bottom of the 137, west of Copper House shaft, is worth 121. per fm.; No. 2 stop, 121.

GREAT WHEAL RUBY UNITED.—J. Delbridge, E. Richards, March 9: At the engine-shaft, sinking below the 120, no change to notice but an increase of water from the elvans. At Offord's shaft the lode is small and poor. In the 110 the lode is small and poor. In the 100 east the lode is 5 ft. wide, yielding 8 tons of ore per fathom. In Levett's winze, in bottom of the 90, the lode is 10 ft. wide, yielding 16 tons per fathom. In Cock's winze, in bottom of the 90 fm. level, the lode is yielding 12 tons per fathom. The 90 stop, over the 90 east, is yielding 15 tons per fm.; the 90 east, 16 tons per fm. Matthews's shaft is yielding 6 tons per fm., with a large quantity of tiniferous average quality. In the 80 east the lode is 6 ft. wide, yielding low-price stamping work. The 70, the 60, and 40 fm. levels east are poor. The 100 rise, west of Fielding's lode, is opening a tube ground; we hope to hold the rise to the old mine in a day or two, when the lode of this level will be set on tribute, and by resuming the 100 west, we have very prospect of discovering some valuable ground westward, towards Moyle's bottoms. In the 90 west, towards Moyle's bottoms, the lode is large, yielding stones of tin, but not to value. In the 80 north, towards King's ground, the lode is favourable. In the 70 no change to notice. In the 50 rise against Black-dog shaft, the lode is very wide, yielding stones of ore, but not to value. At Roseawen's we are securing the engine-shaft about the surface before we commence building, which we hope will be the early part of the coming week. Our surface work is progressing satisfactorily, and no time will be lost until we have the building completed to receive the 70-in. engine, now at work at the west part of the mine. Our machinery is working well at present, and the water much as usual.

GREAT WHEAL FORTUNE.—R. Pryor, J. Daniel, J. Hoskin, March 13: In the 85, east of Harvey's engine-shaft, the lode is 4½ ft. wide, worth 81. per fm. North Lode. In the 60, west of cross-cut, the lode is 1 ft. wide, worth 91. per fm. Carnuel. In the 63, east of Painter's, the lode is 2 ft. wide, worth 101. per fm.; in the stopes in bottom of the 58, east of shaft, the lode is 4 ft. wide, worth 121. per fm. In Hoskin's flat-rod shaft, sinking below the 58, the lode is 3½ ft. wide, worth 101. per fm. In the 58 east the lode is 2 ft. wide, yielding good stones of tin; in this level west the lode is 4 ft. wide, worth 201. per fm. In the stopes in back of this level, west of the shaft, the lode is 5 ft. wide, worth 251. per fm. In the winze sinking below the 48, west of shaft, the lode is 4½ ft. wide, worth 1001. per fm. In the 30, east of shaft, the lode is 2 ft. wide, worth 121. per fm. No change to notice in other parts of the mine.

GREAT WHEAL MARTHA.—H. Rickard, March 14: The lode in the 40, west from engine-shaft, has during the past week much improved, now worth 201. per fm. for copper ore; in the same level east the lode is still a fine course of ore. We have not yet cut through the lode in the 30, east from rise; it being very large, having cut into it already upwards of 3 fathoms. The lode in the 20, west from Thomas's shaft, is producing copper ore of good quality, and promising for further improvement. The tribute department is much as usual, and the prospects of the mine never looked so well as at the present time for a continuous ore in depth.

GREAT WHEAL VOR UNITED.—T. Gill, March 12: Metal shaftmen have been for the last few days engaged in cutting a cistern-plate in the 142, which is nearly completed, and they will commence to sink the shaft in the course of a day or two. The 142, driving east of Metal shaft, on the lode, is 1½ ft. wide, worth 301. per fm. The 142, driving west of Metal shaft, on the lode, is 1½ ft. wide, worth 301. per fm. The 132, driving east of Metal shaft, on the lode, is 1½ ft. wide, worth 221. per fathom. The 132, driving west of Metal shaft, on the lode, is 1½ ft. wide, worth 201. per fm. The 122, driving east of Metal shaft, on the lode, is 1½ ft. wide, worth 1801. per fm. The stopes in the back of the 132, east of Metal shaft, is worth 1401. per fathom. The stopes in the back of the 142, west of Metal shaft, on the lode, is 2 ft. wide, worth 251. per fm. We are making good progress in enlarging Ivey's shaft below the 70. All our machinery throughout the mine is working very well.

GURLYN.—W. W. Martyn, J. Rees, March 4: Our progress in forking continues satisfactory. The 50 is drained, and this morning we dropped the lift 7 fms. below the said level. We shall hasten the sinking of the sump winch-shaft from the 40 to the 50. No change to notice in any other part of the mine since last report. Black tin sold on the 24 inst., 1 ton 16 cwt. 1 qr. 5 lbs., at 721. per ton.

GWYDER PARK CONSOLS.—W. Smyth, March 14: We have taken down no lode in the deep adit since I wrote last, and there is no change. We are getting on very well in driving.

HARWOOD.—J. Race, March 8: The cross-cut in the east and west string still yields some beautiful samples of lead ore, mixed with spar, &c. We have not yet cut the cross-vein. I have taken the men from Drygill vein, and put them to this cross-cut, as it is very probable we shall find the vein rich. I think the sooner we drive up the better.

HAWKMOOR.—James Richards, J. T. Phillips, March 12: The lode in the eastern engine-shaft is 3 ft. wide, without any particular change in its general character since last week. In the 50 east the lode is worth about 2 tons of copper ore per fm. In the 50 west the lode has not been taken down since last week, but it has every appearance of getting larger; when last taken down it produced occasional stones of copper ore. In the stopes in back of the 50 east the lode is worth about 2 tons of copper ore per fm. In the pit in back of the 30 east the lode is worth from 3 to 4 tons of copper ore per fathom. In the 20 east the lode is small, and we intend cutting in south, to see if there is any more lode standing in that direction. In the adit driving west at West Hawkmoor the lode shows itself somewhat larger than for some little time past. We are busily repairing the eastern and Graham's water-wheels, which will be completed in a day or two.

HERWARD UNITED.—T. Pierce, March 14: Forty-five yard Level, west of Dunsford's Shaft: Martin's Sump: The vein at the bottom of this sump is 2 ft. wide, composed of tumbled, spar, clay, and lumps of ore. We are anxiously looking for a change every day. At the 45 yard level, west of Dunsford's shaft, there is not the least alteration since last reports.—Eighty yard Level, west of Dunsford's Shaft: We have met with a knot in the vein at the forebreast of this level, which is very hard and stiff to cut, but none of these last long.—Eighty yard Level, east of Dunsford's Shaft: There is a great improvement in the forebreast of this level since my last report; the vein having opened and yielding good lumps of ore, and looking very promising. All the other parts of the mine are without the least alteration since last reported upon. We have sold to-day at the Holywell sale 16 tons of lead ore, at 121. 6d. per ton.

HINGTON DOWN CONSOLS.—T. Richards, March 13: The 120, east of Morris's engine-shaft, will produce about 2 tons of ore per fathom. The 100 west is exceedingly promising, and will produce 121. worth of ore per fathom; the ground is changing for the better—from a hard porphyritic rock to moderately soft granite, letting out a quantity of water; and, from its general improving appearance, there is a great probability of being near a course of ore. The 85 west continues to produce 5 tons of ore per fathom. The 75 east is improved, and will produce 3 tons of ore per fathom, and is, in its general character, very promising. There is no material change in any other part of the mine.

HOLMBUSH.—R. Pryor, T. Woolcock, March 13: In the 175, east and west of shaft, the lode is producing good stones of copper ore occasionally, and are daily expecting improvement. In the winze sinking in bottom of the 160, west of shaft, no lode has been taken down; we have bored into it through a good lode. We have intersected part of the lode in the 160, west of shaft, which is worth 1 ton of good copper ore per fathom.—Lead Lode: In the 160 north the lode is worth 71. per fm. No lode has been taken down in the 160 south since last reported. We are still driving by the side of the lode in the 145 south.—Flap-jack Lode: No lode has been taken down in the 50, west of winze, since last reported. In the stopes in bottom of the 40 the lode is worth 7 tons per fm. All other places are looking much the same as when last reported.

HUCKWORTHY BRIDGE.—J. H. Rodda, March 13: The engine-shaft is set to sink below the 25 by six men, at 101. per fm. This week the men are getting down the pitwork, which will be completed by Friday morning. The 25 east is set to drive by four men, at 21. 10s. per fm. Lode much the same as last reported.

KELLY BRAY.—Silas James, March 9: The lode in the 75 east is 3½ ft. wide, yielding 1½ ton of ore per fathom, worth 41. per fm. The lode in the 45 east is 3 ft. wide, producing stones of ore, but not enough to value; there is a quantity of water flowing from the end, which is a good indication of an improvement. We have nine pitches working in the western mine by twenty-eight men, which are all working well, and the men earning fair wages; if the same prospects continue as at present, the samplings will shortly increase.—Eastern Mine: The cross-cut in the 70 is progressing satisfactorily in mineralised strata. The lode in the 60 east is, I am happy to say, looking very promising indeed, yielding about 1 ton of rich ore per fathom, and showing good indications of a further improvement shortly, as the ground in which the lode is embedded is of a very favourable character for the production of copper ore, and carrying well-defined walls, and a fair underlie, such as to satisfy us that we are working at the right point.

LADY BERTHA.—Capt. Harpur and Metherell, March 11: Since our report on Thursday last no particular change has taken place in the appearance or character of the ends or stopes. We have, therefore, nothing new to inform you. The tribute pitches are producing much as usual.

—Captains Harpur and Metherell, March 14: In the 53 fathom level, east of shaft the ground is not so hard for driving through as when we last wrote you. In the same level west we have no alteration to report. In the 41 west the lode is small and poor; we have, therefore, suspended operations in this place for the present. In the 41 east the lode is composed of quartz, muddle, and stones of ore. The lode in the 30 east presents much the same appearance as for some time past, consisting of muddle, peach, quartz, and ore. The lode in the stopes in the bottom of this level is composed of ore and muddle, worth of the former 6 tons, or 301. per fm. The stopes in the bottom of the 20 east are composed of muddle and ore, worth of the latter 3 tons or 131. per fm. The tribute pitches, on the whole, are looking better.

MAUDLIN.—W. Tregay, J. Tregay, March 9: The 50 west since leaving the ore ground has been driven through 2 fms. of gossan, with only small branches and stones of ore; the lode in the end-to-day is very much improved; the men having struck through the gossan and broken out very good stones of ore, similar to the ore found in the best part of the lode previously driven through. The 50 east is improving in size and general appearance, but producing only occasional stones of ore. The tributaries are working with spirit, and getting good wages. The laying out dressing-floors is in a forward state, but the dressing has been delayed, partly from want of room, before the floor had been laid out. There are about 15 tons of copper ore at surface.—West Mine: A branch of quartz intersected, and large streams of water; we believe the lode to be near.

MOLLAND.—March 13: The engine commenced working at the commencement of this week, and is working very well. The water is now down within 3 ft. of the back of the 42, and with good speed in the course of another week the mine will, I hope, be in full work to bottom. As far as we can see the water has done little or no damage to the shaft and 32. The stopes in bottom of the 20 east are producing full 1½ ton of ore per fm. Our parcel of ore will, I expect, be down at Barnstable by the end of this week, and I expect we shall divide it into dolos on Monday next.

NANTEOS AND PENRHIL.—H. Boundy, W. Pail, March 12: We beg to hand you our report, showing the work accomplished since the formation of the new company, together with its present prospects, &c.—Kystumean Deep Adit: In this level we have excavated 40 cubic fathoms of ground, built wheel-pit, erected a 24-ft. wheel, made the necessary arrangements for pumping, fixed 50 fathoms of ladders and pipes, cleared up the surface shaft 14 fathoms, cut water-course, &c., for the purpose of conveying the water on the east, all of which answers the purpose intended remarkably well, and we are now sinking the shaft as fast as possible. In this level, east of No. 3 rise, we have put in new timber for 15 fathoms in length, and reared our passes up 9 fms. in height, and filled this large excavation, averaging 9 ft. wide, with dead from the upper level. This stopes is now in a good course of working, and yielding 15 cwts. of ore per fathom.

The stopes west of this rise, in the same level, is producing 8 cwts. of ore per fathom. The level west of No. 3 rise has been driven 10 fms. 5 ft. 7 in.; for the first 7 fathoms the lode is poor. At this point the lode became ore for the remainder of the drive, yielding 8 cwts. of ore per fathom; the end at present is just the same. Reece's level has been driven 13 fathoms; lode unproductive. Row's level, west of No. 1 rise, has been driven 8 fms. 3 ft., the lode varying from 1 ft. to 18 in. wide, composed of muddle, blende, and ore, yielding probably of the latter 8 cwts. per fathom.—Bwlchwyn: The 30 east has been driven 17 fms. 2 ft.; lode poor, but yesterday and to-day in taking down the lode we are glad to say that it has greatly improved, yielding good saving stuff, but as so little of it has been seen as yet it is premature for us to set any value on it, but we are looking forward for large deposits of ore in this eastern piece of ground. A great deal of other work has been done, such as clearing of levels, laying tram-roads, and sundry jobs that cannot be particularised. On the whole, the mine is in a much better state of working than it has been for some time past, and our prospects more cheering. With regard to the returns from the ground we have already opened, together with the improvement which has taken place in the 30 east, should it continue, and what we may reasonably expect to meet with in the 10, below adit, we hope to be able to meet the cost in about six months.—P.S. We do not see it advisable to cut through the lode at the point named in your letter, as it will seriously injure our shaft for drawing, and, no doubt, delay our sinking for a month, as the lode at this point is about 5 fms. wide. No satisfaction can be given of a lode of this kind before opening on its course. We expect to get the shaft down the required depth in about two or three months.

NEW WHEAL FRANCES.—C. Carkeo, March 14: We have driven the 10 east of Kevern's winze 2 fms.; the lode is 1 ft. wide, and worth 151. per fm.—Driving by four men, at 81. per fm. The same level is driven west of said winze 3½ fms.; the lode is 9 in. wide, and very rich for tin, worth about 301. per fathom—driving by six men, at 81. 10s. per fm. Our progress has been impeded a little in driving here in the last few days by an increase of water, which has yet to be drawn to the adit level in barrels; this end is now about 5 fms. east of Dunsford's engine-shaft, a little over two months will be required to effect a communication between this end and the said shaft, which is now down 3½ fms. below the adit level; the lode in the same is 15 in. wide, and worth 601. per fm. for the length of the shaft (12 feet)—sinking by six men, at 161. per fm. In the commencement of next month we intend putting nine men down, in order to get the shaft completed to the 16 against the engine goes to work, which we calculate will be in a little over two months from the present time. The deep adit level is driven west from Dunsford's shaft 15 fms.; the lode in the present end is 1 ft. wide, containing good quality work for tin, and has a very kindly appearance—driving by four men, at 81. per fm. We have not yet cut the lode in the adit cross-cut; our progress here has been slow, by reason of much water, but we are now bidding fair to make better progress, and hope shortly to report to you having a good lode. The weather has been unfavourable for building, but still the masons think they will not be beyond the specified time for completing the contract.

NORTH BASSET.—T. Glanville, G. Davey, March 13: In the 92, west of Grace's shaft, the lode is rather disordered by a cross-head, but still producing saving work for copper ore, with a prospect of improvement. In the 82 west the lode is yielding 3 tons of copper ore per fm. In the 62 west, south of the western shaft, we have intersected a lode 18 inches wide, composed of a beautiful gossan, pryan, black and grey ore, yielding 1 ton of the latter per fm.; this lode is unwrought on in this set, and we have quite 120 fms. on its course, therefore we consider the discovery to be of great importance.

NORTH BULLER.—J. B. Delbridge, March 9: In the 100 there is no change to notice since my last report. In the 78 west the lode is from 6 to 10 in. wide, yielding at times stones of copper and tin, ground favourable for driving. In King's shaft the men have been engaged in the past week cutting ground for cistern, putting it down, and putting in 25 fms. of main rods, and fixing a new 8-in. plunger-lift at the 28. The new plunger is working well. The shaftmen will resume sinking below the 30 by Tuesday next if all be well. All other things are much as usual.

NORTH FRANCES.—F. Pryor, March 8: Our pay and setting went off satisfactorily to-day. In my report some time since you will observe I mentioned it was my intention to cross-cut south at the 60, which is now the bottom of Hunt's shaft, but seeing the appearance of the lode both east and west at this level I am very anxious to resume the sinking of the shaft with all possible dispatch, as by sinking another shaft we shall, from the bottom of the lode, be nearer the sinking of the south lode, besides the commencing a cross-cut north at this point the sinking of the shaft and the driving of the levels will be impeded. I have to-day set the necessary work to be done preparatory to the shaft being set to sink below the 60, which will be finished about the latter part of next week, and after this work is done every effort will be made to get to the 70. The 60 end east has a splendid appearance; the lode is 2 feet wide; driving at 31. 10s. per fm., and will pay for driving. The bottom of this end is better than the back, which is another reason for seeing the lode at the next level as quick as possible. The 60 end west is not out of the influence of the cross-course, but has equally as good an appearance as the 60 end east had when in that position. We are sinking the engine-shaft below the 68 with all possible speed. We are working this mine as fast as circumstances will admit, having, I hope, a due regard to economy, and the carrying out the important objects before us will, in my opinion, result, as I have before stated, in success.

NORTH LAXEY.—R. Rowe, March 9: The lode in the 38 end is now 3 ft. wide, yielding nice stones of ore, and letting out a great deal of water; it will be very desirable to put this end on through the run of the first piece of ore ground seen above. In the 27 end south the ore is again improving; there is a good branch of ore in the bottom, and reaching up about half way in the end; the lode promises well for depth in particular. I will write a more detailed report on visiting the mine next week.

NORTH MINERA.—W. T. Harris, March 14: The cross-cut driving south of the 35 yard level is producing good stones of lead. In the 35 yard level east the communication with Charles's shaft has been completed satisfactorily; we have now only to cut ground, and having tackle preparatory to resume sinking the shaft below this level, where with present facilities and prospects we calculate making good returns. The stopes in the bottom of the 25 yard level, east of Pugh's shaft, and west of Williamson's winze, is producing 2 tons of lead per fathom. The stopes in back of this level, and west of the shaft, is worth 1 ton per fathom. In Pugh's level we have commenced the old shaft, referred to in my last report, with the cross-cut from this level, and have now sufficient ventilation for all necessary purposes for the present. We shall continue clearing the old workings from this shaft, where we expect to meet with satisfactory results. There is no material alteration in any other bargain throughout the mine since my last report. To-day we have fixed here to sink a new shaft on Pugh's lode, 55 fms. east of Pugh's, and 35 fathoms from Charles's shaft, to develop the lode and intersect the course of lead at Charles's shaft, and to prove the many dials and veins known to dip in that direction. Our surface operations generally are progressing satisfactorily.

NORTH NANT-Y-MWYN.—J. Thomas, March 14: We have cleared about 90 fms. of the old level on the course of the lode, and have about 15 fathoms more to do before we get to the western end, which will be 14 fms. from the surface; in clearing up this level I find that large quantities of lead in the old workings must have been taken away, from the bottom of the old level. We expect to find a course of ore in the western end, worth upwards of 1 ton of lead per fm. We shall finish clearing and timbering the western shaft in about a week from this time. There is every indication, as far as we can at present judge, to have as good a mine as our neighbour, the Old Nant-Y-Mwyn Mine, which is now, and has been for the last fifty years, making large profits.

NORTH WHEAL EXMOUTH.—W. Skewis, March 13: The 30, north of Hallett's shaft, is still in kindly ground; the present end is composed principally of carbonate of lime and muddle, with occasional stones of lead ore; the men are put to gain west in extending this end, for the purpose of ascertaining if any ore is in that direction. I am glad to inform you an improvement has taken place since last report in the 28, north of new winch-shaft, where the lode will produce from 7 to 8 cwts. of lead ore per fm., the end still looking kindly. There is no alteration in the tribute department since last report. All the machinery is in good working order. I hope to have a parcel of 10 tons of lead ore to sample in about a fortnight.

NORTH WREY.—T. Kemp, March 14: We have commenced to sink new perpendicular shaft in a line with the water-wheel, about 25 fms. east of old shaft, in such a position as will afford the best access to the lode from surface, and the sinking of the old one, as per bargain reported last week, is suspended; meanwhile this shaft will be used in pushing forward, will all speed, the 38 on the course of the lode north under the hill; the lode here maintains its size, being about 2 ft. wide, and is of a most promising character, yielding occasionally good stones of silver-lead ore. On Saturday last we cut a small stream of water in this level, which is still bursting out with great force in a diagonal direction from the end. I am led to believe we are approaching an east and west lode, and I intend to re-open a shod pit in the plantation to the north of the road coming down to the mine, to dial and ascertain the exact direction of the lode therein proved to exist.

OKEL TOR.—W. B. Collium, March 13: The lode in the end in the 80 is improving; it will yield with the stopes in back of the level 6 tons of ore per fm. on an average. In the 65 east the ore part of the lode is 6 ft. wide, yielding 5 tons of ore per fathom. The lode in the end in the 60 is, as at present, the end increasing in size. The lode in the various stopes in back and bottom of the 50, and also in the rise in back of same level, is looking exceedingly well, and yielding on an average fully 6 tons of ore per fm. The length of the ore ground in this level is 40 fms.

OLD TOLGUS UNITED.—G. Reynolds, March 14: The mine is now clear of water, and the shaftmen are going on with the fixing of the plunger in the 60, and hope to go on with all speed. In the 52 cross-cut we have intersected a branch or part of the new south lode, yielding fluor-spar, with copper ore and muddle; also a certain portion of white iron is connected therewith. We hope to give you a more correct account of the cutting through of the above on Saturday, and hope to report on a good lode after being laid open. In this level west, on the south lode, it is producing good saving work for tin; the lode is 2 ft. wide, and likely to improve. On this lode, in the 42 rise, it is 3 ft. wide, producing saving work for tin and also copper. We hope to have a parcel of about 15 tons of fair quality ore for sale on April 4. The tribute department, we are happy to say, has made an improvement, and the features of the mine are more cheering.

PANT-Y-PYDEW.—M. Dunn, R. Nankeville, March 14: We are progressing as fast as possible with the sinking of the winch shaft; the lode in the bottom of the shaft is very promising for ore, occasionally producing good stones of ore. We expect that we shall intersect the winch in about 6 to 7 yards further sinking; the present depth of the shaft is about 72 yards. The stopes in the back of the 60 yard level are producing a little ore; the lode at present very promising; we anticipate cutting something good here shortly. No alteration in any other part of the mine.

PEDN-AN-DREA.—W. Tregay, T. Delbridge, March 9: Sump: In the 100 east the lode is 8 ft. wide, yielding coarse tiniferous; in this level west the lode is promising for the production of tin, and favourable for driving. In the 100 east the cross-cut into the lode is yielding fair quality tiniferous; no north wall. The 100 east winze is worth 201. per fathom. The 90 winze is worth 101. per fm. In the rise in back of this level the lode is not yet taken down; every effort will be made to shoot this lode on Monday or Tuesday to enable us to report on its value. In the 90 cross-cut nothing cut. In the 68 cross-cut branches, but poor. In the 55 cross-cut the abundance of water and foul air still prevents the driving.—Cobbler's: The skip-road is being laid out as fast as possible. The 68 west is worth 101. per fm. The 68 east and 47 west rise is poor.—Street and Bragg's: The 47 east is worth 41. per fathom.

PELYN WOOD.—R. Ware, March 13: In the 10, south of Nelson's shaft, the lode is 4 ft. wide, composed chiefly of spar, muddle, and spots of black and yellow copper ore; we are pushing on this end to cut the east and west lode, which is expected to be cut in two months. We are driving in a favourable channel of ground, at 31. 10s. per fm., and are nearing the most important part of the mine, having three east and west lodes before us.

PENCRAIG.—Capt. Roberts, March 11: The ore is being raised with great regularity, faster than can be washed with the present hands; I am about engaging more washers. The ore continues as usual; the lode is very strong in the forebreast of the 28 west—a strong spar in the middle of the vein, with loose ground on every side, and every appearance of a good body of ore.

PENDEEN CONSOLS.—W. Eddy, J. Warren, March 9: In the 118, north of engine-shaft, the lode is 4 ft. wide, worth 151. per fm. In the 118 south no lode taken down. In No. 1 stop, in back of this level, the lode is 3½ ft. wide, worth 201. per fm. In the 106 and north no lode taken down since last reported. The stopes in back of this level is not looking so well. In the other parts of the mine there is no change to notice.

PENGENNA.—E. Hitchens, March 7: South Part of the Mine: Here we are still stopping on the antimony branches. The branches here appear to be extending and going down to the south-west; we have still good branches of antimony, which will produce 4 cwts. per fm. I have set the men to sink on the branches here for 17. 15s. per fathom.—Adolphus Shaft: Here we are still sinking on the course of the lode, the ground by the side of the lode is very hard elvan. The branches by the lode in the elvan are not so good as they have been, but still there are spots of lead. The elvan here is too hard for much lead in the branches. The lode here is very downright, underlying about 12 inches, in a beautiful underlie for lead. We have not taken down any lode this week. I have set the men here 2 fms. for 111. per fm.—The Adit End: Here we are still extending east on the course of the lode. The ground by the side of the lode is a little better than it has been, pretty blue killas, and there is an improvement in the lode. I do not know the size of the lode, as we are not through it; the lode is composed of lead, copper, blende, pryan, spar, iron, and capel. The lode is looking very promising—pretty stones of lead. There is every indication of a good lode. These are the prettiest stones of lead that we have seen to the east of the cross-course; the run of the lode is about north-east, and streams of water coming out of the lode. I have set to the men here for 6 feet for 71. 10s. per fathom.

PENHALE MOOR.—H. B. Grose, N. Pascoe, March 11: The following are the particulars of our monthly setting, held on March 9:—The cross-cut to drive north at the 30 by six men, 3 fms. stent, or cut the lode, and we think, from the appearance of the ground, and the quantity of water in the 30 plat, the lode may be worth 121. per fathom; in this end the last few feet driven we have gone through branches of copper and muddle from 2 to 3 in. wide, which appear to be dipping into the lode, which we think is near at hand. The 20 is driven home to the east shaft, and is suspended until the shaft is completed to the depth of that level, which we have set to complete at 50s per fathom, to six men. The 10, to drive east on the new lode, by four men, 10 fms. stent, at 35s. per fm.; lode 2 ft. wide, composed of gossan, muddle, quartz, and good stones of copper ore, improving for the value of tin, and getting more settled as we get clear from the disordered ground. The cross-cut to drive south at the 10, by four men, 10 fms. stent, or cut the lode, and we think, from the appearance of the ground, and the quantity of water in the 10 plat, the lode may be worth 121. per fathom. We have also set a end to drive east and west of the 10 cross-cut, on the new lode, to four men; the east end to drive at 42s. 6d. per fm., and the west end at 35s. per fathom. In the east end the lode is 5 ft. wide, good work for tin throughout. In the west end the lode is from 3 to 4 ft. wide, producing saving work for tin, and intermixed with copper and muddle.—Tribute Setting: A pitch in back of the 10, on the new lode, to three men, at 9s. in 11.; and one ditto in the back of the 20, on the old lode, at 12s. in 11. We are getting on as fast as possible with the stamping and dressing for another parcel of tin for the market. But the work from the new lode is so very hard and spare for stamping, that little progress can be made with the power now employed. We shall push on as fast as possible to see this lode at the 30 and 40, which will take us from two to three months to complete, and if found as productive there as what we have already opened on, we shall only want additional stamping power to return good profits. We have about 8 or 10 tons of copper ore on the floors, which we shall get ready for sampling in a few days.

REDMOOR.—T. Taylor, March 12: The 80 west, on Johnson's, is about 2 feet wide, containing a large quantity of muddle, and worth about 81. per fm. for tin. The lode in the 70 end is about 3 ft. wide, worth from 101. to 121. per fm. No alteration in the tribute ground. We are getting on with the dressing as fast as possible.

RIBDEN.—R. Nines, March 14: Since my last we have been altering the stroke of the engine in the shaft, and have not been able to do much sinking, consequently there is no alteration in the character of the lode.

ROSEWARNE AND HERLAND.—H. Stephens, March 14: The water is very much increased in the 30 south, which I consider is a good indication as we near the lode. In the 30 north the lode is looking more kindly. The 30 east is producing stones of ore. We have commenced opening on the copper branches in the adit west; they are looking much the same as they were in driving the level.

ROSEWARNE CONSOLS.—J. Richards, March 12: Saturday last was our pay and setting-day, when we set the 30 end to drive east of the engine-shaft, to six men, at 31. 15s. per fm.; in this end at present we have a hard bit of ground, which has temporarily disordered the lode, but from what we can see it will wear out in a few feet further driving; the lode at present is worth 121. per fm.; the last 6 fms. driven in this level is a very good one. We set a new shaft to come down on this end, 20 fms. in extent, for 251.; this 20 fms., we calculate, will be sunk and the lode cut this month. Set the 20 fm. level, to drive east on the counter lode, to two men, at 30s. per fm.; the lode is 1½ ft. wide, containing stones of ore. The cross-cut in the adit, to drive east of Hollow's shaft, to four men, at 51. per fathom. We have fourteen tributaries at work, at an average of 12s. in 11.

ROSEWARNE UNITED.—E. Carthew, March 14: In the 90, at footway-shaft, the men are employed cutting plat. At Jennings's shaft, in the same level, the men are also employed cutting plat. In the 88, west of Richards's shaft, the lode is 2½ ft. wide, impregnated with ore. In the 46, east of Lane's shaft, the lode is 2 feet wide, producing stones of ore. In the 34, west of Richards's shaft, the lode is 1 ft. wide, and contains a little ore. In the 34, east of Lane's shaft, the lode is about 2 ft. wide, producing stones of ore. In the 22, east of Lane's shaft, the lode is 2½ ft. wide, composed of muddle, spar, peach, and good stones of ore. Our tribute pitches continue to look well.

ROUND HILL.—R. Waters, March 13: The lode in the 62 north is 2 ft. wide, yielding from 12 to 15 cwts. of ore per fm. The lode being sunk on in No. 1 winze, sinking below the 52 north, is small and poor; the main part of the lode is in a hanging-wall, and so soon as the said winze is communicated with the 62 we shall cut into it. The lode in No. 2 winze, sinking below this level, will yield 25 cwts. of lead ore per fathom. No. 1 stopes, in the back of same level, will yield 15 cwts. of ore per fm.; No. 2 stopes will yield 30 cwts. of ore per fathom. The winze sinking below the 40 north is holed to No. 2 stopes in the back of the 52. We shall now commence to stop north and south of said winze, and recommence driving the 40 north; the lode in the present end will yield 2 tons of lead ore per fm.; we shall commence to stop in the back of this level as soon as convenient. The lode in the back of the 62 south is 4 feet wide, yielding 8 cwts. of ore per fm. The counter lode in the 40 south will yield 6 cwts. of ore per fm.

SORRIER CONSOLS.—J. W. Crase, T. White, March 13: The engine-shaft is sunk 12 fms. below surface, and progressing favourably. No. 1 lode in the 28, driving east of shaft, is 2 ft. 6 in. wide, composed of gossan and peach, and worth 81. per fm. for tin. No. 2 lode in the bottom of the shaft, sunk 10 fathoms below surface, is improved, being 1 foot wide, composed of gossan and peach, and worth 91. per fathom for tin, sinking by four men, at 21. per fm. We are getting on with the quarry quite as well as we anticipated, and shall soon be in a position to raise stone for the engine-house. Everything here is being carried on as vigorously as possible, and, with a continuance of fine weather, we shall soon make great progress in our surface operations.

wide, producing good stones of ore, and has a very promising appearance. In the 100 west the lode is 20 in. wide, consisting of munda, peach, and spar, and yielding occasional stones of ore; this is a kindly end. The lode in the winze sinking in the bottom of the above-named level is 18 in. wide, producing good stones of ore, and is promising for further improvement. In the 90 west we are stripping down on a south branch containing a little ore, which, we think, prove to be the main part of the lode, which has for some time been split into branches by a slide. The lode in the 78 west is 2 1/2 ft. wide, composed of spar, munda, jack, and spots of ore—a beautiful-looking lode, although poor at present. The lode in the 66 west is 18 in. wide, composed of spar, munda, peach, and occasional stones of ore. The lode in the 120 east the lode is 2 ft. wide, unproductive. The lode in the 110 east is 3 1/2 ft. wide, yielding 2 tons of ore per fathom—a fine, kindly-looking lode. The two stops in the back of the above-named level are each yielding 2 tons of ore per fathom. In the 100 east the lode is 20 in. wide, of spar, and produces occasional stones of ore. The lode in the winze sinking in the bottom of the 90 east is 1 ft. wide, and chiefly consists of flookan.—New South Lode: In the 78 west the lode is 16 in. wide, composed of peach, munda, and jack. No lode nor branch has been met with in the cross-cut, west of Mitchell's shaft, driving north from Youren's lode, in the 90, towards the north lode, since last reported.

STENOSE AND MAWLA UNITED.—Nicholas Reed, March 11: Our engine was set to work on Feb. 22. We find the shaft is sunk 15 fms. below the adit, and a cross-cut driven south 12 fms., and the lode cut through, but scarcely anything done on it; it is evident that the former workers were obliged to suspend their operations from the quantity of water that issues from the lode, they having no steam power; this lode is 3 ft. wide, and presents a fine appearance, and I believe will be a very productive one shortly; it is now yielding excellent stones of copper ore. The winze in the bottom of the adit, 30 fms. further west on the same lode, is worth 25¢. per fm. for tin, also yielding good stones of copper ore from the north part of the lode. This lode traverses the entire length of the set, which is one mile in extent. Altogether we have a very promising young mine, as well as extensive. The engine works well, and is capable of keeping double the quantity of water we now have if required.

ST. DAY UNITED.—F. Pryor, R. Ralph, J. Cook, March 9: Trussell's Copper Lode: The shaft sinking below the 154 will produce from 3 to 4 tons of ore per fm. The 154 east will produce 1 ton per fm.; the stop in the back of this level 4 tons per fm. The 144 west will produce about 2 tons; the stop in the back of this level 4 tons per fm. The 144 east will produce about 2 tons; the stop in the back of this level 4 tons per fm. The 154 east, east of the shaft about 30 fms., is worth 30¢. per fm. The 154 west is suspended for the present, in order to rise for ventilation, as well as to lay open ground, the same being worth 15¢. per fm.; two stops in this level are worth 15¢. per fm. each. The 144 east, east of shaft, is producing a little tin. We are glad to say the water, as you will observe from our workings, is in fork, and we are keeping the same all right at Billing's. We hope the water will be in fork at Blaise Pool by the end of next week, it is now down to the 140 fm. level. We shall sample at our usual time about 300 tons of copper ore.

ST. IVES WHEAL ALLEN.—H. Taylor, March 14: The 80, east and west of Giesler's engine-shaft, looks much the same as last week. The lode in the 40 east is 18 inches wide, worth 8¢. per fm. The lode in the 40 west is 18 in. wide, producing some good tin stuff. The ground in the 40, east of Louisa's engine-shaft, is hard for driving; we calculate from 3 to 4 fms. more to drive to get into the tin ground. The pitch in the back of the 40, set on tribute, continues to look very well. The lode in the 20, east of Louisa's shaft, is again opening, and we expect soon from appearances to get through the disordered ground. The lode in the rise in the adit, east of Highborough shaft, is about 5 in. wide, worth 4¢. per fm. Nothing new in the deep adit cross-cut on the cross-course. The water is drained to the bottom of Rodrick's engine-shaft, and the men are now about to cut ground for bearer, clatern, &c., preparatory to our beginning to sink. The lode in the 50, west of the winze, is 2 ft. wide, producing a little tin.

TAMAR SILVER-LEAD.—T. Foot, March 12: There is no alteration in the character of the ground in the 237 south since last reported on. We have cut through the lode in the 226 south, which is 3 ft. wide, composed of capel and lead, producing saving work. The stop in the back of this level will yield 12 cwt. of lead per fm. The 216 south is also driving by the side of the lode. When the lode was last taken down in this adit it yielded 15 cwt. of lead per fm.; and, from the appearance of the lode now standing, there is no doubt it will turn out well. The lode in the winze sinking in the bottom of this level is 4 ft. wide, and will produce 20 cwt. of lead per fm. The stop in the back of this level (four in number) will yield as follows:—No. 1, 7 cwt. of lead per fathom; No. 2, 8 cwt.; No. 3, 20 cwt.; and No. 4, 10 cwt. The lode in the 205 south is 3 ft. wide, and will produce 6 cwt. of lead per fm. The stop in the back of this level will yield on an average about 6 cwt. of lead per fm.

TEES SIDE.—B. Bray, March 13: The rise in back of Hardish's level is up about 5 ft. on caunter lode, and is 2 feet wide, composed of spar and hazel-wood; the men had shot a hole last night in the roof of the rise; it appears to be limestone, but I cannot see enough of it as yet to give you the particulars as to its character, but will do so next week, as we have not yet cut through Hardish's lode above. At Providence engine-shaft we had forked the water to the 24 on Sunday last; in the night we had a fall of snow and frost which stopped the wheel on Monday morning. I hope this severe weather will continue long, so that we may set the wheel to work again in the shaft to raise ore.

TOLCARN.—March 13: Field's Lode: The lode in Field's shaft, sinking below the 20, is 2 ft. wide, composed of gossan, soft spar, prlan, and yields occasional stones of ore, a very kindly lode. The lode in the 20 west is 1 ft. wide, composed chiefly of spar; in the 20 east the lode is 15 in. wide, composed of gossan, prlan, and copper ore, yielding of the latter 1/2 ton per fm., and is promising for further improvement. The lode in the 10 west is 9 in. wide, unproductive; in the 10 east the lode is 1 ft. wide, producing 1 ton of ore per fm., and has a very promising appearance. The lode in the winze sinking in the bottom of the adit east is 15 inches wide, and consists chiefly of gossan and spar.—Chegwain's Lode: The lode in the adit east is 16 in. wide, composed of gossan, iron, and mixed with granite.—Tin Lode: The lode in the adit east, driving west, has much the same character and appearance as when last reported, and is worth for tin from 35¢. to 40¢. per fathom.

TRELOWETH.—T. Richards, March 9: In the engine-shaft, sinking below the 134, the lode in the eastern end of the shaft is worth 15¢. per fm. In the 134, driving east of engine-shaft, the lode is worth 8¢. per fm. In the 134, driving west of engine-shaft, the lode is worth 6¢. per fm. In the 124, driving east of engine-shaft, the lode is worth 10¢. per fm. In the 124, driving west of engine-shaft, the lode is worth 10¢. per fm. In the winze sinking below the 124 east, it is worth 8¢. per fm. In the cross-cut driving north at the 80, west of Woodfall's, we expect to cut the lode very soon. In stopping the back of the 134 east, the lode is worth 12¢. per fm. In stopping the back of the 124 east, the lode is worth 10¢. per fm. In stopping the bottom of the 116 east, the lode is worth 30¢. per fm.

TRENCROM.—R. Hollow, Francis Bennetts, March 14: In the 90, east of Giesler's engine-shaft, the lode is worth 3¢. per fm. In the winze sinking below the 80 the lode is worth 3¢. per fm. In the 80, east of the engine-shaft, the lode is worth 2¢. per fm. In the 80, west of the engine-shaft, the lode is unproductive. In the winze sinking below the 70, east of engine-shaft, the lode is worth 3¢. 10s. per fm. In the 60 cross-cut, clearing south-east of the engine-shaft, no change. In the 40, east of the engine-shaft, the lode is worth 4¢. per fm. In the 30, east of the engine-shaft, the lode is worth 1¢. 10s. per fm. In the 20, east of Mitchell's shaft, the lode is worth 2¢. 10s. per fathom. In the 20, west of flat-roof shaft, the lode is worth 3¢. 10s. per fm.

TRETOIL.—R. Rich, March 12: The lode in the 24 is still looking very promising and we can see it now full 3 ft. wide. The work that has been broken there has been hauled, and we have just commenced to stamp it, and as far as we are able to judge from the short time it has been stamping I have no doubt it will turn out equal to our expectation. I am just up from underground with another agent, who is here inspecting for some shareholder, and he is highly pleased with the lode in the 24 fm. level.

TREVOOLE.—H. Stephens, J. Lean, March 14: The lode in the 80 is without change to notice since our last report; a good lode, worth quite 40¢. per fm. The rise in back of the 90 is up 3 fathoms, and got into a good lode, worth 12¢. per fathom; this ore is dipping west about 4 feet in the fathom, which shows that the lode has been in the 90 west, and the 90 east, the lode is improving as it approaches the cross-course. There is no change to notice in any other part of the mine.

TRUMPET UNITED.—G. R. Odgers, March 9: During the past week we have sunk the engine-shaft about 4 ft.; the lode is 9 in. wide, and producing good work for tin; much the same as I stated last week. All the other work is being prosecuted with as much vigour as possible.

UNITED MINES (Tavistock).—J. Tucker, March 13: On Saturday last, which was our pay and tutwork setting-day, the shaft measured 8 fms. 1 ft. sunk. I fully believe that the other 3 fms. 5 ft. will be sunk, and, perhaps, something done towards driving and using the shaft, by the end of the present five-weeks month. The end to drive north in the 18 was re-set to two men, at 35s. per fathom; the end is in a crush, consequently requires pretty much timber.—Tribute: There is but little change to report in this department; the eastern pitch, in the 48, is looking well; the western one is poor, and thrown in at 13s. 4d. in 1¢. 14s. is offered for it, but as yet no one is found to work it. The pitch in bottom of the 35, east of shaft, is much as usual; worked by two men for two months, at 13s. 4d. in 1¢.

VALE OF TOWY.—R. Waters, T. Harvey, March 12: Clay's engine-shaft, (now about 6 fms. below the 90) is going down in a beautiful channel of highly mineralized ground, and under exceedingly favourable circumstances as to position with respect to the lode. The lode, at present forming the hanging-wall of the shaft, is about 2 ft. wide, composed of barytes, carbonate of lime, and blende, in considerable quantities. The hanging-wall of the main lode at present forms the footwall of the shaft. This lode is very much fractured, and from what we can see, must be from 8 to 10 ft. wide. We are looking forward with much interest to the 100. In the 90, driving south of Great cross-course, the lode is gradually improving, now yielding good stones of lead ore. In the 80, driving south of Field's shaft, we are nearly through the bar of ground referred to in our last; the lode is getting wider, and at present yielding saving work for lead ore. The 70, driving south of said shaft, is not yet clear of the unproductive ground, but will soon be forth to the run of a productive bunch of ore. In the 60, driving south of Nant shaft, the lode is 18 in. wide, yielding some rich work for lead ore, and improving. In the 80, driving north of Clay's shaft, the lode is 4 ft. wide, composed of barytes, with stones of lead ore, but at present no value. In the 80, driving north of Bonville's shaft, the lode is 3 1/2 ft. wide, yielding good work for lead ore, and gradually improving. We have set the ground in back of this level, south of Woolcock's winze, to Bonville's shaftmen, to stop on tutwork. This pair (six men) will carry on the two last-named bargains. We have commenced a winze below the 70, south of the latter shaft, for the purpose of ventilating the level coming north from Clay's. On Saturday last we set 20 pitches at tributes varying from 30s. to 130s. per ton of lead ore. January level ore weighed 55 tons 6 cwt. 2 qrs., and we calculate that our next sampling will show an increased quantity.

WATERMOUTH SILVER-LEAD MINING COMPANY.—Mr. Josiah Hugo Hitchens, under March 14, writes,—"I am glad to be able to say that our lode at both Newberry and Knapp Mines is producing an improved appearance. In the 20, at Newberry, the lode is 2 feet wide, producing, in places, some ore, with blende and munda, and otherwise composed of congealed quartz and carbonate of lime, the ground also, on both sides of the lode, being very kindly, and favourable for progress. Looking at the improved character of this lode and the ground about it, we may fairly expect to have to report on this mine in a much more decidedly favourable manner before long.

WEST BRYN GWIG.—John Lloyd, March 11: The sinking of the winze-shaft is progressing with all speed, and is at present in a very kindly channel of limestone, and which is improving as it goes deeper. The lode at present is not quite so wide as it has been, and seems as if the sink in a bar in the lode, with a rib of carbon of lime about 6 in. wide, spotted all through with small lead ore and calcamine. The 55 yard level east has been suspended for the present, and the men set to sink a new winze under the east level from the eastern cross-course. This winze is only 4 yards down 4 yards, and just cut through a fine bed of shale; the lode in this end is wide, and kindly for bearing, spotted all through with large eyes of ore, blende, and fluor-spar, &c. A change for the better may be anticipated soon in this end, especially when the hanging or north wall of the lode is seen, as I find the vein to be more natural to produce on that side than on the south part of ditto.

WEST CONDURROW.—G. Bennett, G. Jewell, March 14: The lode at the engine-shaft, which is now driven to the 12, is 3 1/2 feet wide, and is producing saving work for tin, and also produces stones of copper ore. This lode is much improved since our last

report. In the 24, east of Purser's shaft, the lode is 4 feet wide, and producing stones of copper ore; this is also improved since our last report. In the 24, west of Purser's shaft the lode is 1 1/2 feet wide, and is improved in the last 6 feet driving. In the 12, east of Purser's shaft, the lode is 3 feet wide, and producing stones of copper ore.

WEST CONDURROW.—Special Report: from Mr. W. Lelann, J. Nancarrow: This set, which is 700 fms. long, and 200 fms. wide, is situated 1/2 mile south-west of the town of Camborne, and is just in that direction from the railway station; is bounded on the east by Wheal Harriet, on the south by Tryphena, on the west by Wheal Nelson, and on the north by West Stray Park. It is in the junction of the granite and killas. The granite, which is overlaid by the killas, dips north-west 6 ft. in a fathom, and is 55 fms. from surface, about the middle of the set. There are in the set six lodes, all underlying north, five of which have a bearing from 8 to 10° north of east; the other, termed the caunter, is about east and west. On a lode within 5 fathoms of north boundary, about 17 fathoms have been driven at the adit level, which is 25 fathoms from surface, and the lodes stopped, which yielded 200¢. worth of tin. This lode has but little underlie. Killas lode is 55 fms. further south, and underlies north 3 ft. in a fm.; on this three shafts are sunk. The engine-shaft, about the middle of the set, with a new 40-in. engine is erected, is sunk 9 fms. below the adit. The lode in the shaft is 4 ft. wide; the leader on the south part is 2 ft. wide, composed of prlan, quartz, &c., and seems to be opening; it looks very promising for the production of copper ore. Purser's shaft is 75 fms. east of engine-shaft, and sunk to the 24. The adit is driven from Purser's shaft 75 fms. east to the cross-course, and has been productive for tin and copper for nearly the whole length, and a great deal of the backs are worked away. This level is extended several fathoms east of the cross-course, where the lode is disordered. The 13 is 70 fms. east of Purser's; the lode in the end is 4 ft. wide, for the present unproductive; here 100¢. worth of tin was broken within 10 fms. of the end. The 12 is driven 35 fms. west, and has yielded a little copper and stones of tin. The 24 is driven 12 fms. east of Purser's; lode 5 ft. wide, composed of capel, quartz, killas, &c.; nothing yet to value, but may be expected to improve. The 24 is west of shaft 24 fms.; has been unproductive; lode now turning south, apparently towards the caunter, as it is near the junction, where it will probably improve. Bennett's is 55 fms. west of engine-shaft, and is sunk 18 fms. from surface. The caunter lode takes off from Killas lode, about Purser's shaft, at the adit, where it was exceedingly rich for tin, which made 7 fms. below the adit level, east of shaft, and back west through it; this is taken away. There are 20 fms. driven east; the lode is 2 ft. wide, producing a little tin, seen in a cross-cut 24 fathoms further east; very little opened—seems small. In the 12, 7 fms. only are opened; in the east end the lode is not large, but in the west end it is 2 ft. wide, and of a very promising appearance, and contains some good ore; here the ground is worked above and below the level for a height of 8 fms.; lode gone down in bottom worth 8¢. per fm. From a cross-cut 6 fms. west of shaft there are 4 fms. driven east; here the lode is very rich. The rise in back is 15 in. wide, composed of capel, quartz, &c., and seems to be opening. This lode has yielded well for the ground opened. There is a cross-cut driven south from engine-shaft to south boundary, intersecting in its course three lodes. Bickford's lode is 22 fms. south of engine, and is opened on 40 fms.; the lode is 18 in. wide, and has yielded a great deal of tin in the back, and ought to be worked. Smith's lode is 12 fms. south of Bickford's, and is driven on 20 fms.; a strong lode, from 2 to 3 ft. wide, and is now being worked on tribute for tin. Wheal Nelson lode is 40 fms. south of Smith's, seen only for 2 fms. In length, composed principally of quartz, rather hard, and contains a little tin. These lodes are likely to be productive as they get down into the granite. The caunter is already into it in the 24, and looks well, and Killas lode is seen upon the granite, where a favourable change may be anticipated. Considering the small depth that is yet reached, and judging from the very good bunches of tin and copper found in the ground already wrought, the appearance of the lodes, and the locality (which is one of the best), it appears highly probable that the mine will be very productive in depth. There are 25 men and boys employed, and the cost is about 130¢. per month.

WEST SHARP TOR.—W. Richards, March 12: The part of the lode now being cut into in the 110 west since last capel and more quartz, impregnated with yellow copper ore. There is no other change in the mine since my report for the meeting.

WEST SNAILBEACH.—Jas. Richards, March 14: The sinking of the engine-shaft below the 64 is progressing favourably, the ground being a little more favourable. The north lode in the 64, driving west, presents a very good appearance for a deposit of lead. There are some good stones of ore taken from this lode daily, and it bids fair for a fine course of ore at the 76. There is no material alteration to notice in the same level driving east on the south lode.

WEST TOLGUS.—March 13: We have fixed the rods in Wheal Raven engine-shaft, from the 30 to the 50. We have also dropped the lift 8 fathoms below the 50, and all being well we shall drop the lift again to-morrow. We have not cleared out the 50 yet, the men have been employed at the caunter. The lode in the rise in the back of the lode, near Purser's shaft, it seems very desirable to sink this lode fairly down to the granite, where a favourable change may be anticipated. Considering the small depth that is yet reached, and judging from the very good bunches of tin and copper found in the ground already wrought, the appearance of the lodes, and the locality (which is one of the best), it appears highly probable that the mine will be very productive in depth. There are 25 men and boys employed, and the cost is about 130¢. per month.

WEST TREVELYAN.—J. D. Osborn, March 9: Cater's engine-shaft is sunk 7 fms. 2 ft. below the 48. In the 48, west of Cater's, the lode is 2 ft. wide, worth for copper ore 15¢. per fm. The winze sinking west of Cater's, in the bottom of the 38, is communicated to the 48, and next week we shall put the men to stop east and west of the said winze, where we have a good lode, worth for copper ore 12¢. per fm. In the 38, west of Cater's, the lode is 2 1/2 ft. wide, composed of quartz, prlan, iron, and occasionally producing stones of grey copper ore. The stop in the back of the 38, west of Cater's, are worth 4¢. per fathom. The cross-cut driving north from Cater's, at the 28, to cut Pryor's lode, is driven 18 fms. At Park shaft we have a chock in the adit, which the men have been working, but now the water is gone down the men are engaged clearing the cross-cut south.

WEST WENDRON CONSOLS.—R. Kendall, March 9: There is no change at the water-wheel shaft or the 10 east, driving west, we hope next week to get the engine to work; we are in want of the castings, which are promised in the early part of next week; no time will be lost in getting it to work.

WEST WHEAL MARGARET.—Capt. Uren and White, March 12: No change has taken place in the mine worthy of notice since last week. We are progressing with the sinking of Hallett's shaft below the 20 as fast as possible, and no time will be lost in getting it down to the 30. The machinery is in good order, and working well.

WHEAL ARTHUR.—F. C. Harper, T. Carpenter, March 12: Old Lode: In the adit east of shaft, we have just passed through the cross-course, and find the lode to be about 3 ft. wide, composed of spar, munda, peach, and spots of ore.—Watson's Lode: In the back of the adit, west of shaft, the lode is about 2 ft. wide, consisting of peach, munda, quartz, and tin stuff. The winze sinking below this level, is now down rather more than 6 fms., where the lode is large, carrying spar, peach, munda, and spots of tin. In the stopes and rise in the back of the 20 west the lode is from 3 to 4 ft. wide, composed of peach, quartz, munda, and tin stuff. We shall have 2 tons of tin prepared for market very shortly.

WHEAL CREBOR.—J. Gifford: The lode in Cock's shaft is 5 ft. wide, and no north wall to be seen yet, composed of quartz and capel, with occasional stones of munda and copper ore—a very strong kindly lode. The 45 west we have cut into the lode, but not through it; it is composed of capel, quartz, strings of munda, and copper ore, but not to value. We have taken four of the men from this end for a few days, to put a stop in the back of the 48 east. The piece of lode taken down last night and to-day has proved to be poor, but from the indications in the present end I think it will improve in a few feet further driving.

WHEAL CUPID.—R. Pryor, March 9: There is no change to notice in the 65, east of the engine-shaft, since last report. The lode in the 54, east of shaft, has been for the last 6 ft. in driving about 2 1/2 ft. wide, and in cutting into the north side of the level to-day I discovered a part of the lode standing for about 1 ft. wide, and worth full 8¢. per fathom for copper ore, with a good appearance. The lode in the 40, east of shaft, is 3 ft. wide, producing stones of ore; this end is about 10 fms. behind the 64, and within the last 6 ft. of driving has undergone a very favourable change for the better, and judging from its present appearance, I think we are running good lode of copper ore. Nothing much has been done in the 25, east of shaft, for the last week. The men have been engaged in repairing the engine and winze-shaft. Our prospects to-day are looking better than I ever saw them.

WHEAL DAMSEL.—R. Pryor, H. Harvey, March 9: We have forked the water in John's shaft about 42 fms. under the deep adit level. Fox's shaft is timbered and secured to the 30, and footway put into the 40. We shall push on clearing and securing this shaft with all possible dispatch to the 50, to communicate the same to John's shaft. We have completed the erection of the whim on King's shaft, and secured and timbered this shaft about 10 fms. under the deep adit. The first level we expect to meet with is at the 30, which will take at least a month to arrive at, in consequence of the shaft being full of stuff. We will forward further particulars in our setting report next week.

WHEAL EDWARD.—M. H. East, March 9: South Lode: In the 92 west the lode is 4 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 8¢. per fm., month stent. In the 81 west the ground is favourable for progress; driving by four men, at 5¢. 5s. per fm., month stent; no alteration in the lode. In the 71 west the lode is 10 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 61 west the lode is 8 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 51 west the lode is 6 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 41 west the lode is 4 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 31 west the lode is 2 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 21 west the lode is 1 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 11 west the lode is 1/2 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1 west the lode is 1/4 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/2 west the lode is 1/8 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/4 west the lode is 1/16 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/8 west the lode is 1/32 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/16 west the lode is 1/64 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/32 west the lode is 1/128 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/64 west the lode is 1/256 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/128 west the lode is 1/512 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/256 west the lode is 1/1024 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/1024 west the lode is 1/2048 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/2048 west the lode is 1/4096 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/4096 west the lode is 1/8192 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/8192 west the lode is 1/16384 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/16384 west the lode is 1/32768 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/32768 west the lode is 1/65536 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/65536 west the lode is 1/131072 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/131072 west the lode is 1/262144 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/262144 west the lode is 1/524288 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/524288 west the lode is 1/1048576 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/1048576 west the lode is 1/2097152 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/2097152 west the lode is 1/4194304 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/4194304 west the lode is 1/8388608 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/8388608 west the lode is 1/16777216 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/16777216 west the lode is 1/33554432 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/33554432 west the lode is 1/67108864 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/67108864 west the lode is 1/134217728 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/134217728 west the lode is 1/268435456 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/268435456 west the lode is 1/536870912 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/536870912 west the lode is 1/1073741824 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/1073741824 west the lode is 1/2147483648 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/2147483648 west the lode is 1/4294967296 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/4294967296 west the lode is 1/8589934592 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/8589934592 west the lode is 1/17179869184 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/17179869184 west the lode is 1/34359738368 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/34359738368 west the lode is 1/68719476736 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/68719476736 west the lode is 1/137438953472 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/137438953472 west the lode is 1/274877906944 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/274877906944 west the lode is 1/549755813888 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/549755813888 west the lode is 1/1099511627776 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/1099511627776 west the lode is 1/2199023255552 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/2199023255552 west the lode is 1/4398046511104 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/4398046511104 west the lode is 1/8796093022208 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/8796093022208 west the lode is 1/17592186044416 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/17592186044416 west the lode is 1/35184372088832 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/35184372088832 west the lode is 1/70368744177664 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/70368744177664 west the lode is 1/140737488355328 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/140737488355328 west the lode is 1/281474976710656 ft. wide, composed of capel, spar, munda, and spots of copper ore; driving by six men, at 5¢. 5s. per fm., month stent. In the 1/281474976710656 west the lode is 1/5629499534213

MINING NOTABILLIA.

(EXTRACTS FROM OUR CORRESPONDENCE.)

WEST CARADON progresses most favourably: the new shaft on Pryor's lode is in a beautiful channel of ground, and is expected to make ore shortly; should this be the case, a new and productive mine will speedily be opened out, which will greatly enhance the value of the property. On the 21st inst. 320 tons of ore will be sold, and the usual dividend declared at the end of the month.

WENTON (near Holywell).—Captain Thomas Pierce, of Brynford Hall, reports on this mine, under date of March 12: "That the drift of the 64 yard level west is proceeding most satisfactorily: the lode is a very strong one, 4 ft. wide, carrying a branch of 15 in. on the heading side; that he expects daily to cut into good ore." He adds, "I am speaking from many years' experience of the lodes in this district, and I consider the forecast of this level to be most congenial for lead; in fact, I have never seen like ground in this locality fail to give most productive returns."

At WHEAL HEARLE the tin sale, on March 2, was 4½ tons (nearly), and realised 325½. ss. Capt. N. and S. Tredinnick report that they are driving the 60 east to see the new south lode, which is of great importance. The machinery is all in good order and working well; their prospects continue excellent. They have five tinwork bargains, working by 17 men and 3 boys, and 13 pitches, working by 39 men, at 60¢ per ton.

WEST CONDUROW.—The special report of this mine, which appears in another column, is worthy of perusal, as it shows its locality, and defines the future prospects very minutely.

WHEAL DAMSEL.—As public attention is being directed to this mine, a brief description will not be out of place. It is situated in the parish of Gwennap, in the county of Cornwall, one of the richest mineral districts in the world. In the former workings on a portion of the ground 180,000 tons was divided in profits. The present adventurers have a long run of ground unexplored on the same lode, between the piece of ground where the above profits were made, west, and the Consolidated Mines, that cleared half a million each, so that it is next to an impossibility to fail. There is an excellent 50-inch engine on the mine, with all other necessary materials, all paid for, with a balance in hand. It is divided into 612 shares, and the adventurers are highly respectable.

NORTH WREY.—An assay of silver-lead ore from this mine has been made by Mr. Charles Low, and is certified to contain 71½ per cent. of lead and 31 ozs. 7 dwts. 3 grs. of fine silver to the ton of lead ore.

WHEAL HENDRA.—The lode in the engine-shaft has just been cut, and is worth 20¢ per fm. for tin.

WEST DOLCOATH.—This company has entered into a contract with Mr. W. H. Gray, of St. Austell, for the erection of a 40-inch pumping-engine. The mine is said to be in a good position, and traversed by several lodes; and it is confidently believed that as soon as the machinery is completed this property will soon be brought into a paying position.

WEST WHEAL FRIENDSHIP.—In another column we publish the prospectus of a limited company for working this set; the capital has been fixed at 18,000£, in shares of 2½ each. The mine is held for 21 years at 1-15 dues, and a provisional arrangement has been entered for the purchase of the lease, plant, &c., for 60,000£, two-thirds in paid-up shares, and the remainder in cash after eight months' cost shall have been subscribed. The mine was abandoned five or six years since from want of capital, and it is believed that a small further outlay will enable the junction of the lodes to be reached. The reports of Capt. Josiah Hitchens and James Richards (both of Devon Great Consols) are of a very favourable character. The former says: "I firmly believe the undertaking to be not only an unusually safe and profitable one, but also that it will be sure to prove a permanently lucrative investment;" and Capt. Richards says: "Altogether its appearance justifies the expectation that it will turn out well at no great depth below the present bottom."

GREAT WHEAL FORTUNE.—The great Cammel lode of tin, which was worth 300¢ per fm. in the 36 fm. level, has again been cut in the 58 fm. level, west of Hoskin's shaft, and is at present worth 150¢ per fm., and daily improving.

WHEAL HARRIETT.—The 100 fm. level is still passing through a fine course of tin, worth from 50¢ to 60¢ per fathom. The stope in the back, 3 fathoms behind the end, is turning out 1 or 2 tons of black tin per fathom—in fact, the lode is coming away at 1s. 11¢. The sale of tin for the two months (11 tons) has produced 6500£, which was the company's 2000£, making together nearly 10,000£, a profit upon the two months' working of 2000£. The tin passed through in the 150 to 20 fathoms in length is worth fully 50¢ per fathom. According to present prospects, the next sale of tin for the two months will be 16 or 17 tons. The engine-shaft is down 12 fathoms below the 100, and when sunk to the 115 the level will be driven up under this rich course of tin, which in the bottom of the 100 is richer than in the back. If cut in the 115, Wheal Harriett will rank among the dividend mines, after Dolcoath and Seton, of the Camborne district.

RHYSCOG MINING COMPANY.—Under this title an association, under the most favourable auspices, is being formed, with a capital of 15,000£, in 51 shares, for working the property formerly explored by the Llandwibrenn Company, together with two adjoining mines. The present grant includes the Rhyssog, Cwmbrén, and Cwm Dewlas Mines, and embraces an area of nearly 1000 acres, which will be held under lease for 31 years, at 1-15th royalty. The country is hilly, traversed by metallic veins of a promising character, and in the district are some of the most celebrated of the Devonshire lead mines. The property is to be acquired for 1500£, in cash, and 4450£, (890 shares of 5¢ each) in paid-up shares. Mr. J. G. Gunther, and Capt. Rowe, Matthew Francis, and George Henwood have inspected and reported upon the property, and it appears that the enterprise will in all probability be eminently successful, and that early, large, and continuous dividends may be reasonably anticipated.

GREAT WHEAL VOR.—The discovery in the 122 east, at Wheal Metal, appears likely to be of an important character. It is expected, from present indications, that the lode in Metal shaft will be cut rich.

CUMBERLAND BLACK LEAD.—The late discovery of a new pipe of pure plumbago is attracting great attention in the county, especially among the pencil manufacturers of Keswick, which town, numbering about 5000 inhabitants, is supported by these manufactures, and will be much increased by the yield of pure lead from these ancient mines. The new ore, or pipe, of pure plumbago is becoming equally as valuable as the Grand pipe, which is stated to have yielded above two millions sterling profit to the former proprietors.

WHEAL SICILY.—The prospects of this mine are excellent. In the cross-cut from the engine-shaft a branch has been this week intersected, underlying towards the lode, and from which a large stream of water is issuing. The branch is of a very kindly description, and contains good spots of copper and lead, with a beautiful flouken and white iron. The quantity of water issuing from it is so large that the engine is for the time "drowned" by it, and preparations are being made for changing the lift, which will be accomplished in a few days, and the cross-cut resumed, and it is confidently expected that a rich lode will shortly be met with. In the sink at the stream-work, which is about 50 fms. to the north of the engine-shaft, the water has been partially drained, so as to admit of the lode being seen and opened on. It is 1 foot big, widening as it descends, and is worth, at only 12 or 14 ft. deep, 3 or 4 cwt. of rich silver-lead ore per fm., and improving in the bottom of the sink, from which large solid stones of lead, of 10 or 12 lbs. weight, are being broken. Altogether the prospects are most cheering, and the result is likely to verify the predictions of those best acquainted with the locality—namely, that one of the best lead mines in Cornwall will be soon opened up here.

GREAT NORTH TOLGUS.—The flat-rod shaft is now down to the adit level, and they have to sink about 3 fathoms further before intersecting the south lode, immediately below which they will sink upon the course of the lode. The intersection has taken place, the engine will be put to work. Both the engine-shaft and the flat-rod shaft will be sunk with all speed. The prospects of the mine are good.

BRITISH SLATE COMPANY.—Operations are about to be immediately commenced at the Rowlin and Peniau Quarries, which, it is proved, contains the second best vein in Carnarvonshire; and it is confidently expected that shortly after operations have been commenced it will prove itself to be at least third in the list of remunerative quarries. Unlike most quarries, good marketable slate is here produced at 4 yards from surface; and the short distance it has to be conveyed by land, being one-fourth less than any other quarry in the country, gives it a pre-eminent advantage, while the railway now in course of construction, which passes the foot of the mountain upon which the quarries are situated, will afford every facility for the conveyance of the produce to the inland counties.

LOCHWINNOCH CONSOLS.—Since our last, the lode whence ½ a ton of ore was shot down has been opened on 14 feet, and no wall. About 26 tons of copper ore have been raised in the upper part, or discovery. The two men have raised 20 tons during the week; there are now between 50 and 60 tons procured in ten days, with every appearance of holding on; the old works have been holed into and examined. This operation fully proves that the former workers only had a north branch of the great lode or deposit, as the cutting from the deep level, where the present mass of copper has been met with, is of a very different character both in strata, ore, and bearing; the ground is more compact, the ore very much richer and harder; the new level comes in about 5 or 6 fathoms below the old works. It is intended to continue the adit, and cut down the water in the old upper adit; this has been driven east by north, the present is driven north by west; the former workers never saw the great lode just cut. Some beautiful specimens have been obtained; the place is daily visited by numerous gentlemen from Glasgow and the neighbourhood, the extraordinary discovery having become the subject of much conversation in that busy city. The adventurers promised the miners at the commencement of the undertaking, in Jan. 1, 1861, that if they raised 100 tons of copper ore by the month of March they would give them a good dinner, little expecting they would be called upon to fulfil their promise. Above 60 tons have been raised, and no difficulty will be experienced in far exceeding the stipulated quantity. The dinner has been, accordingly, ordered for the last Saturday in March, when a large attendance is anticipated. There are only twenty shareholders, and no shares on sale at any price.

COAL, AND ITS SUPPLY.—All persons being more or less interested in a cheap supply of coal, any project which can bring about that desirable end will undoubtedly meet with that share of public support which it deserves; and, therefore, it may be confidently anticipated that the undertaking which has just been inaugurated for the purpose of supplying its shareholders and the public with good coals at a moderate price will prove exceedingly beneficial to the public generally, and also remunerative to those who may embark their capital in the enterprise. After careful consideration, the promoters of the scheme feel confident that, after allowing for every contingent expense, and taking into consideration that shareholders will be supplied with coal at the smallest possible advance upon the actual cost, the company will be so extensively patronised that a satisfactory dividend will be realised. That there is an ample, if not an unoccupied, field for the operations of such a project cannot be doubted; and if a successful precedent were needed, without alluding to the enormous and remunerative business hitherto conducted by the Great Northern Railway Company, the great success which has attended the operations of the Graveland and Milton Coal Consumers' Company, might be cited, which, after having existed for a thoroughly probationary term of five years, is now the means of saving to the shareholders a considerable sum in the price of coals, besides paying a dividend of 10 per cent. upon its capital. Special attention is called to the fact that all shareholders who are supplied by the company must obtain their coals at a cheaper rate than from merchants and dealers, inasmuch as they will be receiving a proportion of the profits of the company, in addition to the benefit derived from a reduced tariff, thus constituting every shareholder his own coal merchant. The names of the executive are a guarantee of the bona fide character of the enterprise, and the sum at which the shares have been fixed—11¢ per share—cannot fail to ensure a large list of holders. It is entitled the Metropolitan Consumers' Coal Company, and is divided into 40,000 shares.

ANCIENT GEOLOGY—No. III.

The theory that the earth's outer crust has been built up upon a crystalline formation is very old, and, in our own day, has been ascertained with perfect certainty to be correct. It is not adverse to the most ancient history; in fact, there seems to be concurrent testimony to its truth in the thoughts of the most sacred writers and speakers who have communicated their views to man. Our Lord says, speaking of the Creator, "Thou lovest me before the foundation of the world;" showing that, like every other building, the world had a foundation, both hinting at the basis and the mode of procedure of forming the planet, that its completion occupied a course from a foundation upwards. And King David, in marvelling on the eternal design of the earth's almighty Architect, says—"My substance was not hid from thee when I was made in secret, and curiously wrought in the lowest parts of the earth." And more explicitly to show how the future was foreshadowed in the past, adds—"And in thy Book all my members were written," which, in continuance, were fashioned when as yet there was none of them. It is certainly wonderful to imagine the pre-arranged minutiae of creation: if we only advert, in illustration, to the beautiful and complicated mechanical structure of the human hand, as one of the members contemplated by the Psalmist, and note that through its design every description of curve and every beautiful form of line can be easily and readily traced, we may form some little idea of the completeness that entered into the draught of coming things, before even the finest filament of slate existed, from the earliest of days. In order to understand anything rightly and accurately we must go back to its origin. Man would hardly dare to investigate such a subject if he were not expressly informed by divine authority of the existence of such design previous to the execution of the work, calling, as it were, his attention to the arrangement of those wondrous works, and noticing that they were drawn or written in the great Book before they were called into existence. In alluding to the causes in operation that formed the stratification of the earth, the early slate first began to be deposited on the granite formation, for the lamination of the primitive or first slate is evidently due to the action of water; and the first sacred geologist says the Spirit of God moved upon the face of the waters. The life-giving principle that animated everything, that controlled the action of the agency employed to build up the structure of the earth's rock, is here clearly indicated, as well as the grand agent, water—the power that broke down the granite ramparts, that comminuted the fragments by attrition, that levelled the pulverised matter, the matter that erst stood in high rocky cliffs, and formed the boundaries of the pristine ocean. These uneven crests of rock, that divided the surface of the planet into cliffs and caverns, were destined to be smoothed down into beautiful layers, composed of thin sheets of stone. This was evidently to be the work of the ancient oceans. Another great agent is the electric current, that grained or lined the rock, dividing it into thin inclined vertical planes or sheets, running in the early stages of the earth's geological history from 35° to the west of south to 35° to the east of south. Next the currents of fire that, emanating from the granite source or foundation, were afterwards employed to elevate, distort, and disrupt the fields of slate, and to render them fit to receive the metallic family. The investigation of the action of the powers employed to complete the structure of the stratified rocks will form the subject of future enquiry—that is to say, the water, the electric current, and the up-lifting power; but, first, it will be necessary to devote attention to the granite or foundation-stone. I hardly need say that the granite is a rock composed of mica, quartz, and felspar; the origin of it is, in a great measure, oxygen gas, principally oxide of silicium. Oxygen, we know, is also one of the components of common air, and it is not an uncommon thing to see it solidified under the action of crystallisation; and we are by the laws of Nature, to a certain extent, enabled to understand how a subtle fluid is capable of becoming the solid crust of the world given to us as an habitation.

COAL MARKET.—On Monday 57 fresh ships arrived, which, added to the cargoes standing over from last week, gave a good supply of all kinds of coal, and the market was heavy at a general decline of about 6d. per ton in prices. Best house coals, 19s. to 19s. 6d.; seconds, 16s. to 17s. 6d.; Hartley's, 14s. to 15s.; manufacturers', 13s. 6d. to 14s. 6d.—On Wednesday there were 102 arrivals. The quantity of house coal on sale was again very large, but the weather being colder there was rather more enquiry for that description, and prices were firmly supported. Hartley's were not abundant, and obtained an advance of 3d. per ton. Manufacturers' dull, at Monday's prices.—On Friday 53 ships arrived. The fine spring-like weather caused a dull market for house coal at last prices, the transactions being very limited. Hartley's and manufacturers' without alteration. Best house coal, 18s. 6d. to 19s. 6d.; seconds, 15s. 6d. to 17s.; Hartley's, 14s. to 15s.; manufacturers', 13s. to 14s. per ton: 83 cargoes unsold; 55 ships at sea.

LONDON COAL DUTIES.—In the House of Commons, on Thursday, Sir G. C. Lewis moved a resolution, on which to found a bill for the purpose of continuing for ten years the coal duties and the port duties on wine now levied by the officers of the Corporation of London. The coal duties consisted of a 4d. duty, which the Corporation considered part of the City estate; an 8d. duty which had been appropriated under an Act of Parliament, and the proceeds applied, by direction of the First Commissioner of Works, and which would shortly expire; and another duty of 1¢, which would also shortly expire. He proposed to continue these duties for ten years—the proceeds of the 9d. tax to be paid into a fund to be devoted to metropolitan improvements—the purposes to be hereafter defined by Parliament, but more especially with reference to a recommendation of a committee of last session which sat on the embankment of the Thames. These duties were at present levied over twenty miles round a central point in the metropolis; but he proposed to confine the area to the metropolitan police district.—Mr. PULLER hoped the right hon. gentleman would reconsider the proposed new area of taxation, which would include places receiving no benefit from the expenditure of the money thus raised.—Mr. ANTHONY protested against the right hon. gentleman's proceeding, which was wholly unjustifiable.—Sir M. FARQUHAR suggested that the area of the Metropolitan Board of Works would be far larger than that of the Metropolitan Police.—Mr. INGRAM said the measure would operate prejudicially on an important industry in the North.—Resolution agreed to.

On Monday, Mr. Deereoff presented a petition from the overseers and occupiers of the coal mines in the neighbourhood of Leeds, against the continuance of the City of London coal tax.

On Thursday, Mr. Brice presented a petition from Moulsey, Surrey, against the duty on coals in the City of London.

HAMMERING AND ANNEALING ROLLED COPPER.—At the Manchester Literary and Philosophical Society, Mr. Chas. O'Neill read a paper "On Changes of Density which take place in Rolled Copper by Hammering and Annealing." The results of his experiments proved that the best commercial rolled copper actually lost density by hammering, instead of gaining as might have been anticipated. In the first series of experiments, 10 pieces of copper were cut from a sheet of the thickness of 3-16 in., the pieces weighed from 250 to 320 grs. each, with their mean density was 8.779. The pieces were then separately subjected to the action of a powerful compressing machine, acting on the principle of the *genou*, about 50 blows being given. The density of these hammered pieces showed a mean of 8.855, being a loss of 0.024. The same pieces were annealed by being placed in red-hot sand, and cooled slowly; when cleared from adhering oxide, the mean density was found to be 8.884, being an increase of 0.029 on the hammered pieces, and 0.005 on the original pieces. A second series of experiments, made with very great care, corroborated the first in the main points. The pieces were from another and better sheet of copper; 10 pieces, weighing each from 420 to 520 grs., showed a mean density of 8.898, being hammered by the same machine; their mean density became 8.878, showing a loss of 0.020 by hammering; upon annealing in a charcoal fire, the mean density of five out of the ten pieces was 8.896, showing a gain of 0.018 on the hammered pieces, and a loss of 0.002 upon the original. A third series of experiments upon the change of density in a bar of copper by successive hammerings, showed a loss of density from 8.885 to 8.867. The author considered there was a connection between these phenomena and the heat dissipated in the hammering of the copper; he conceived it possible that the expanded state of the copper while heated by hammering was retained, and that the effect of annealing might be to allow the molecules or particles to recover the state in which they were in before being disturbed by the heat produced in hammering.

LAND IN CLEVELAND, NORTH YORKSHIRE.—A few days ago an estate of 86 acres of agricultural land, with farm-house and buildings, let at 90¢ a year (its full value), was sold by auction at the Golden Lion Inn, at Stokesley, in Cleveland, and realised 4125£. Mr. H. F. Bolekow and Mr. John Vaughan, the well-known ironmasters at Middlesbrough-on-Tees, were competitors up to 4100£, when it was knocked down to Mr. J. Mellor for 4125£. The property adjoins the fine landed estate of Mr. H. F. Bolekow, who has for a considerable length of time had numerous workpeople employed in large additions to his beautiful mansion at Marton, in Cleveland. Mr. John Vaughan has lately purchased, near Marton, a splendid Elizabethan mansion, and upwards of 100 acres of fine land surrounding it, where he has been expending large sums of money in beautifying and ornamenting the grounds. Mr. Vaughan has occupied for three years the noble mansion and park belonging to Lord Falkland, which he shortly vacates to occupy his own elegant residence, and his lordship and the Duchess of St. Albans are about to reside in the family mansion.

SALE OF ENGLISH AND AUSTRALIAN SHARES.—On Thursday, Mr. Murrell submitted for sale at the Auction Mart 1000 of the above shares, the property of a bankrupt. There was a very large attendance, especially of stockbrokers, and a spirited bidding took place. A few of the first lots were knocked down at 31. 3s., but by far the largest number realised 31. 6s., although a few of the last lots fetched 31. 8s. Messrs. Casanova and Co. and Spencer Herapath were among the chief purchasers.

RISCA COAL AND IRON COMPANY.—A petition for winding-up this concern has been presented to the Master of the Rolls by Mr. T. W. Rhodes, of Floreide, Northampton; it will be heard on March 23.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, March 15, 1861.

COPPER. £ s. d.			BRASS. Per lb.		
Best selected....p. ton	105 10	0 (Nom.)	Sheets	9 1/4 d.	10 1/4 d.
Tough cake.....	102 10	0	Wire	9 1/4 d.	10 1/4 d.
Tithe	102 10	0	Tubes	11 1/4 d.	11 1/4 d.
Burra Burra	101 0	0-102 0 0	FOREIGN STEEL. Per Ton.		
Copiapu	94 0	0-95 0 0	Swedish, in kegs (rolled)	16 10 0	—
Copper wire	0 1 1	0-1 1 1/4	do (hammered)	17 0 0	18 0 0
ditto tubes	0 1 1/4	—	Do, in faggots	18 10 0	19 0 0
Sheeting & bolts	0 0 11 1/4	—	English, Spring	18 0 0	23 0 0
Bottoms	0 1 0	0-1 0 1/4	Bessemer's Engineers Tool	44 0 0	—
Old (Exchange)	0 10 10	—	do Spindle	30 0 0	—
IRON. Per Ton.			QUICKSILVER	7 0 0	p. bottle
Bars, Welsh, in London, ..	6 10 0	—	SPELTEN. Per Ton.		
Do, to arrive	6 0 0	—	Foreign	18 5 0	18 10 0
Nail rods	7 0 0	—	To arrive	18 15 0	—
do Stafford, in London ..	7 6 7	15 0	SING. Per Ton.		
Bars	7 10 0	8 0 0	In sheets	24 0 0	—
do ditto	8 10 0	8 15 0	TIN. Per Ton.		
Sheet, single	9 0 0	9 15 0	English, blocks	124 0 0	—
Pig, No. 1, in Wales	3 0 0	4 0 0	Do, Bars (in barrels) ..	125 0 0	—
Refined metal, ditto	4 0 0	5 0 0	Do, Refined	126 0 0	—
Bars, common, ditto	5 7 6	5 10 0	Banca	123 0 0	0-124 0 0
Do, merchant, in Tees ..	6 15 0	7 0 0	Straits	118 0 0	—
Do, railway, in Wales ..	5 5 0	—	TIN-PLATES.*		
Do, Swed. in London ..	11 10	0-12 0 0	10 Charcoal, 1st qua. p. bx.	1 8 6	1 10 0
To arrive	—	—	IX Ditto 1st quality ..	1 14 6	1 16 0
Pig, No. 1, in Clyde	2 18 0	0-2 10 0	IX Ditto 2d quality ..	1 6 6	1 8 0
Do, f.o.b. in Tees	2 17 0	—	IX Ditto 3d quality ..	1 12 6	1 14 0
Do, f.o.b. in Tees	2 8 6	2 10 0	IX Coke	1 3 0	1 4 0
Staffordshire Forge Pig ..	3 10 0	3 12 6	IX Ditto plates	1 9 0	1 10 0
Welsh Forge Pig	—	—	Canada plates	1 9 0	1 10 0
LEAD. Per Ton.			In London; 20¢ less at the works.	—	—
English Pig	21 0	0-22 10 0	Yellow Metal Sheathing... p. lb.	9 1/4 d.	—
Do sheet	22 0	0	Indian Charcoal Pig ..	6 12 6	6 15 0
Do red lead	23 0	0-24 0 0	In London	—	—
Do white	30 0	0-31 0 0	* At the works, 1s. to 1s. 6d. per box less.		
Do patent shot	24 0	0-24 10 0			
Spanish	20 5	0-20 10 0			

REMARKS.—The business of the week has been very trifling, for in the present state of the market there is no dependence to be placed on any metal; and, with money at 8 per cent., it is scarcely to be wondered at that but few buyers are bold enough to make large purchases, though parcels are constantly being offered at very low prices. Unfortunately, there is no likelihood of any great change for the better for some time to come, for foreign intelligence is by no means conducive to business, and a reduction in the Bank rate of discount is, we fear, yet afar off. A short notice only of each metal will suffice, as the report of one will almost serve for all; about the only change made will be found to be but adapting a new song to the old tune.

COPPER.—English, cake, tile, and manufactured continues dull and inactive; purchases may be effected under fixed rates. Foreign is easier in price and slow of sale. Burra Burra, 101½ to 101½. Kapunda, 99½ to 100½; Copiapu, 94½ to 95½; Chili, 88½ to 90½, according to brand.

IRON.—The position of railway bars is somewhat lower; contracts are reported to have been made at 4½. 17s. 6d. to 5½. f.o.b. in Wales. Makers are still in want of orders, and there is a fair demand for merchant bars at 6½. f.o.b. in London, but not sufficient to keep manufacturers fully employed. All kinds of Staffordshire are extremely quiet. The chance of the new American Tariff becoming law in the United States seems to have created quite a panic among the ironmasters, as it would almost be prohibitive to the importation of manufactured iron, and would thus virtually close one of their largest outlets. Swedish in fair enquiry, price 11½. 10s. to 11½. 15s.; sellers at those prices can readily be found. Scotch pigs are without activity, and have receded to 47s. 3d.

LEAD.—English pig shows no change since our last report; a fair shipping business doing. Export orders for sheets very scarce; the demand for home consumption is rather better; Spanish pig saleable at 20½. 5s.

SPELTEN.—Inactive, and but few sellers at current quotations; business is reported at 17½. 17s. 6d. and even 17½. 15s. is rumoured; but these prices are not general, and it is not safe to rely on them, as a few hours may at any time make a great alteration in this market; 18½. to 18½. 5s. are the importers' prices. During the last fortnight several arrivals have taken place.

TIN.—Notwithstanding the late reduction in market price, sellers find it difficult to obtain full rates for English descriptions. For foreign very little enquiry Banca, 123½; and Straits, 118½. Sellers. There are heavy stocks both in Holland and London, as well as in America, whose political disturbances exercise a very depressing influence on tin in our market; under ordinary circumstances the American market takes a very large quantity, but now, of course, it is all but closed.

STEEL.—Foreign, keg, and faggot are now very low in price, but considerable difficulty is still experienced in placing either kind, buyers continuing to hold off. Most of the arrivals that have taken place this year have been for small parcels, and sold ex ship at 17½; one parcel of 100 tons not finding a purchaser above 16½. 10s. has been landed.

TIN-PLATES.—No improvement. Makers disinclined to make further concessions. QUICKSILVER.—77. per bottle of 75 lb. nett.

LIVERPOOL, MARCH 14.—The prospect of the new American Tariff coming speedily into operation has imparted a degree of activity to our market for the moment. The makers have been pressed for delivery of orders on hand; while the stocks here are pretty well cleared out of bars, sheets, &c. So soon as all is shipped that can be shipped in time to go in under the old duties, we shall, no doubt, relapse again into a depressed condition. Common bars are without change in price. Good brands can be bought at 5½. 5s., f.o.b. in Wales. "To arrive" the price is 5½. 15s. to 5½. 17s. 6d., f.o.b. in Liverpool, and out of stock, 6½. to 6½. 2s. 6d. Copper is still selling at from ½d. to ¾d. per lb. below the nominal price. Tin-plates are in limited demand, but there is some prospect of an improvement in the demand from the States, as the stocks there are very low, and the increase of duty on this manufacture is comparatively trifling: 22s. is still the quotation for all IC, though in some instances a fraction less has been accepted. Scotch-pigs have declined, and are quoted to-day at 47s. to 47s. 6d. for No. 1, g.m.b., f.o.b. in Glasgow, nett cash.

THE MINING SHARE MARKET, on the whole, has been brisk this week, and a good amount of business transacted, notwithstanding the derangement caused, as usual, by the settlement of the fortnightly account, which took place on Thursday, and was particularly heavy in several stocks, but especially so in East Russell and East Caradon shares, in which there was a short supply for delivery. Early in the week there was a demand for dividend mines, and some of them rose in price; but latterly the market was not so firm, nor the demand so great, for either dividend or progressive stocks. West Seton shares rose soon after our last to 390½, but leave off 365 to 375. The rise was owing to a report that one of the points to which we have more than once called attention—cutting the new north lode at the 100—had been accomplished, and so far as seen, worth 3 tons of copper ore per fm. We have not received to the present time any official intelligence from the mine. South Frances not quite so firm, at 175 to 180; Alfred Consols, 2½ to 3½; an improvement is looked for here in the 140. North Basset shares have been largely dealt in, and after declining to 6 rose to 7½, and leave off 7½ to 7½; in the 42 cross-cut, south of western shaft, a lode 18 in. wide has been intersected, with fine gossan, priam, and black and grey ore; of the latter 1 ton per fm. This lode is described as unworked throughout the sett, and there is a run of 120 fms. on its course, so that its discovery is considered important. East Basset shares have advanced to 110, 115; the 80 east is reported worth 20¢ per fathom for yellow ore. Par Consols, 9 to 10; at the meeting the profit on the four months was only 742½. 14s. 11d. (upwards of 2000£ having again been charged on account of engine, pitwork, &c.), but a dividend of 5s. per share (1600£) was declared, leaving 4800½. 4s. 6d. in hand. The tin sold and credited in the account produced 8615½. 4s. 1d., but as the quantity of tons sold is not given, and we are not able at this distance to refer to "cost-book, folio 244," to ascertain the quantity sold, we cannot ascertain the difference in the sum total caused by the fall in tin, but which must be considerable. The report of the mine shows ends in the copper part worth 95¢ on the aggregate, and the 170 end is approaching the intersection of the gossan lode, which has hitherto made the rich bunches of ore in the mine. In the tin part the 125, on Puckey's lode, has been driven 40 fms. through a lode worth from 20¢ to 40¢ per fm.

Wheal Mary Ann, 18 to 20. At the meeting the accounts showed a profit on the quarter of 362½. 17s. 9d., and a dividend of 512½ declared, leaving 999½. 1s. 8d. in hand. The report states that the ores sold had not realised so much by 300£, as expected, whilst the costs had exceeded the

calculations, so that the agents could not advise paying more than a dividend of 10s. instead of 12s. as expected from the nature of the reports to the last meeting. Bedford United, 5½ to 5½; Marke Valley, 6½ to 6½, ex div. At the meeting, held on the 14th inst., the accounts showed a balance in favour of the mine to end of January of 4772. 9s., and a dividend of 6s. per share was declared. The agent's report stated that the mine was looking better than at any former period, and the reserves were steadily increasing. East Caradon shares have not been so firm, and leave off at 15 to 15½. At the meeting a dividend of 5s. per share was declared, but no statement of the accounts, or agent's report, have yet been received by the shareholders. The meeting was held, for the first time, at Liskeard, and as the offices of the company are in Salisbury the delay may thus be accounted for. We understand the balance in hand after payment of the dividend was 9997. 16s. 3d., and that the report was very favourable, and about 5 fms. more to drive to cut the caunter lode in the 60 fathom level. West Bryn Gwio have advanced to 36, 37; the rise is owing to having cut the lode, we understand, in the eastern shaft, under a bed of shale; the lode has fine stones of ore in it, and in a similar formation to Bryn Gwio, where the lode was discovered. North Minera, 37s. to 39s.; the communication has been completed at the 35 yard level, and Charles's shaft resumed sinking; the lode is worth from 4 to 5 tons of ore per fm. Botallack, 205 to 210; Bryn Gwio, 32½ to 35; Carn Brea, 90 to 95; Copper Hill, 82½ to 87½; Ding Dong, 9 to 11; Drake Walls, 15s. to 20s.; East Carn Brea, 7½ to 8. East Russell have been largely dealt in, and leave off 6½ to 7. Grambler and St. Aubyn, 20 to 22; Great Alfred, 18s. to 20s.; Great South Tolgus, 6½ to 7; Herodfoot, 35 to 37; Hingston Down, 2½ to 3; Kelly Bray enquired for; Lady Bertha, 20s. to 22s. 6d.; Lewis Mines, 6s. to 7s.; New Seton, 48 to 50; New Treleigh, 45s. to 47s. 6d.; North Downs, 3½ to 4½; North Frances, 4½ to 5; North Robert, 18s. to 20s.; North Roskear, 20 to 22. Great Retallack, 35s. to 37s. 6d.; the last report states that the lode lately reached in the 35 is not so good for blende, but is promising for lead, which is important, being the deepest level. We understand the large parcel of blende will be sampled, so that biddings may be received on the 28th, and the meeting will be called soon after. But for the weather, which delayed the works for several weeks, half the present quantity of ore would have been sold more than a month ago. North Treskerby, 29 to 30. Trevoole, 4 to 5; the lode in the 80 continues much the same as last reported, worth 40s. per fm. A rise in back of the 90 is worth 12s. per fm. Wheal Damsel have been enquired for, and dealt in at 12½ to 16½, and the mine showing good chances of success. Pendeen, 5 to 5½; Providence Mines, 37 to 39; Rosewall Hill and Ransom, 1½ to 2½; Rosewarne and Herland, 7s. 6d. to 10s.; Rosewarne United, 20 to 22½. Wheal Unity were in good demand, at 12s. to 13s. early in the week, and a large business done; but on Thursday they suddenly declined in price to 10s.; and on Friday a letter was received at the office to say that on Wednesday the piston-rod of the bob broke, which will delay the works again for a few days, and shares leave off 9s. to 11s. Sortridge Consols, 11s. 6d. to 12s. 6d.; South Caradon, 300 to 310; South Condurow, 10s. to 15s.; South Tolgus, 48 to 50; Stray Park, 36 to 38; Tincroft, 5½ to 5½; Treloweth, 3½ to 4; Trelyon Consols, 13 to 14. South Caradon Wheal Hooper advanced on Thursday from 15s. to 20s., upon a telegram that the lode lately cut in the 62 cross-cut had in it rich stones of ore; the price, however, was not maintained; they leave off 15s. to 20s. The lode was cut into on Monday, and on being driven upon is opening out better, with good stones of ore; and the agent writes on Friday, "He likes the appearance of the lode better than anything seen in the mine, which is in the midst of South Caradon, and close to East Caradon."

Bryntal, 4 to 4½; at the meeting a call of 4s. per share was made, the accounts showing 4677. 9s. 8d. liabilities over assets. The report was favourable, but stated the severe weather had retarded operations. Tees Side, 7s. to 9s.; Vale of Towry, 8s. to 9s.; Wendron Consols, 18 to 20; West Caradon, 77½ to 80; West Stray Park, 42 to 54; Wheal Bassett, 105 to 110; Wheal Buller, 117½ to 122½; Wheal Clifford, 175 to 185. Wheal Crebor, 12s. to 13s.; the lode in the 48 east is not looking so well, and has caused a decline, but the agent expects an improvement next taking down, and a fine lode is coming into the shaft. At Wheal Harriett the prospects are said to be good. Wheal Kitty (Leland), 11½ to 12½. Wheal Ludcott shares have declined to 3, 3½, but we have not heard of any change at the mine. Wheal Margaret, 45 to 47; Wheal Seton, 85 to 90; Wheal Agar, 3½ to 3½; Billins, 20 to 22½. Bottle Hill, 24s. to 26s.; on Tuesday 7 tons of tin were sold at 71. 15s.—502½. 5s.; this shows a fall of nearly 10s. per ton in tin since the last sale, which brought 81. 5s. per ton; this parcel, but for the delays caused by the severe weather, should have been sold six weeks or two months ago. Wheal Trelawny, 12 to 13; the mine sells to-day 35 tons of crop ore and 50 tons of seconds; the last sale, in February, was 40 tons of crop ore, which brought 26. 6s. 6d. per ton. Wheal Grenville, 2½ to 3; no alteration at the mine. East Grenville, 14s. to 16s.; the mine continues to look well, and stamping the tin has commenced, and going on satisfactorily. East Budnick and Mount, 10s. to 11s.; a promising lode has been met with in the 26 south, 12 to 18 in. wide. Michell's, 8s. 6d. to 9s. 6d.; Silver Vein, ½ to ½, prem.

We understand that a large and very influential copper smelting company, with a capital of one or two millions sterling, is in course of formation, and that particulars will be given in due course. We have long been advocates for a company of this sort, and if properly carried out and conducted, it would be the greatest boon to the mining interest.

On the Stock Exchange, transactions in Mining Shares have not been very extensive during the week. The following prices were officially recorded in British Mining Shares:—East Wheal Russell, 6½, 6½; Lady Bertha, 1½; Tincroft, 5½, 6; West Caradon, 79; Herodfoot, 36; North Wheal Bassett, 7½; Providence, 38; East Bassett, 110. In Foreign and Colonial Mining Shares the prices were:—Linares, 9½, 9½; Lusitanian, 2½; United Mexican, 4, 4½; St. John del Rey, 30, 30½, 30, 30½; Great Northern Copper of South Australia, 1½; Worthing, ½.

Foreign and Colonial Mining Shares have been inactive during the week "outside," there being but few quotations, and, so far as we can learn, fewer transactions. In the absence of any information from the mines, and the general dullness of the money market, this can hardly be wondered at. St. John del Rey are marked rather low, 30 to 30½; a rise may be anticipated in the shares ere long. Worthing shares about ½, quiet. United Mexican, the only shares that have been in demand during the week, leave off 4 to 4½. English and Australian Copper, 3½ to 3½; the shares that were sold by public auction realised upwards of 3½ per share, the principal buyers being connected with the House. Cobre shares dull, at 39½ to 40½; Linares 9 to 9½; flat, in anticipation of the meeting to be held on the 28th inst. Lusitanian, 2 to 2½; Port Phillip, ½ to ½. Fortuna meeting is called for the 28th inst.; the shares are quoted 2 to 2½. Labuan Coal, 2½ to 3½ prem.

At Redruth Ticketing, on Thursday, 2975 tons of ore were sold, realising 17,376. 2s. The particulars of the sale were:—Average standard, 130½. 8s.; average produce, 6½; average price per ton, 54. 17s.; quantity of fine copper, 136 tons. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore copper.
Feb. 7.	2144	1238 11	6½	£5 17 0	287 8
" 21.	4117	131 12	6½	5 15 6	89 3
" 28.	2883	129 12	6½	5 10 6	86 10
March 7.	2893	126 9	7½	6 18 0	90 7
" 14.	2975	130 8	6½	5 17 0	88 13

Compared with the last week's sale, the decline has been in the standard 15s. 6d., and in the price per ton of ore about 1s. Compared with the corresponding sale of last month, the standard has slightly advanced.

The Mount Pleasant Mining Company (near Mold) declared a dividend of 1½ per share, on the 6th inst.

At the Wheal Mary Ann meeting, on Tuesday (Mr. P. Clymo in the chair), the accounts showed—Balance last audit, 1148. 3s. 11d.; ore sold and sundries, 5013. 17s. 7d.—7062. 1s. 6d.—Mine cost, merchants' bills, and sundries, 5550. 19s. 10d.; leaving credit balance, 1511. 1s. 8d. The profit on the three months' working was 362. 17s. 9d. A dividend of 512. (10s. per share) was declared, and 9997. 1s. 8d. carried to credit of next account. Capt. Clymo, Hodge, Harris, and Stevens reported that the ore had realised less by 3000, than they calculated, and the costs had been more, but they do not think they will be so high in future.

At the Par Consols meeting, on March 5, the accounts for four months ending December showed—Balance last audit, 5157. 7s. 7d.; ore sold and sundries, 19,367. 17s. 8d.—24,515. 7s. 7d.—Mine cost, merchants' bills, and sundries, 18,615. 2s. 9d.; leaving credit balance, 5900. 4s. 6d. The profit on the four months' working was 742. 14s. 11d. A dividend of 1608. (6s. per share) was declared, and 4300. 4s. 6d. carried to credit of next account. Capt. Stephens, Puckey, Rich, and Hosking reported upon the various points of operation.

At Marke Valley Mine meeting, at Salisbury, on Thursday (Mr. W. Fawcett in the chair), the accounts showed a credit balance of 4772. 9s. A dividend of 2250. (6s. per share) was declared. Capt. Secombe submitted a report, detailing the operations since the former meeting, in which he states that the mine is looking better than at any former period, and that the reserves are steadily increasing.

At the East Caradon Mine meeting, on March 8 (Mr. P. Clymo in the chair), the accounts for the four months ending January, showed—Balance last audit, 1678. 8s. 7d.; ore sold, 3803. 10s. 7d.—5481. 19s. 2d.—Mine cost, merchants' bills, and sundries, 1939. 8s.; dues, six months, to Dec. 2184. 14s. 11d.; Nov. dividend, 768. 10s.; leaving credit balance, 2555. 16s. 3d. The profit on the four months' working was 1622. 7s. 8d. A dividend of 1592. (6s. per share) was declared, and 9997. 1s. 8d. carried to credit of next account. Capt. J. Secombe reported upon the various points of operation. The prospects continue of the same favourable character as reported from time to time. The caunter lode is expected to be cut in the 60 in about a month, if the ground should continue as at present. Since the last meeting they have proved the course of ore in the 50 to nearly 20 fathoms lower.

At Wheal Frank Mills meeting, on March 8 (Mr. W. T. Smith in the chair), the accounts showed—Balance last audit, 580. 13s. arrears of calls received, 61. 15s.; ore sold, 2334. 16s.—2942. 4s.—Mine cost, merchants' bills, and sundries, 1693. 17s. 4d.; leaving credit balance, 1248. 6s. 8d. A dividend of 625. (2s. 6d. per share) was declared. Capt. Nicholls and Cornish reported that the returns during the next two months will be equal to the last, and the cost less. All the machinery is in very good working condition, and 146 hands are employed.

At Pedn-an-drea United Mines general meeting, on Thursday, the accounts showed—Balance last account, 1503. 4s. 8d.; tin sold, 6137. 10s.; copper ore, 9301. 11s. 9d.; discount, 37. 7s.; arrears of call, 3057. 18s.—8880. 11s. 5d.—Labour cost for five months ending Dec., 5898. 18s. 8d.; merchants' accounts, 1300. 18s. 7d.; printing, &c., half-year, 5s. 13s.; journey to the mine, 57. 8s.; London charges, five months, 66. 4s. 7d.; leaving balance to next account, 1603. 8s. 7d. The liabilities exceeded the assets by 1087. 19s. 10d. A call of 2s. 6d. per share was made. The report of the manager and agents was deemed favourable.

At the Bryntal Mine meeting, on Wednesday (Mr. John Edmonds in the chair), the accounts showed—Balance at the last audit, 91. 4s. 10d.; calls received, 374. 19s.; loan, 289. 0s.; ore sold, 1221. 16s.—795. 19s. 11d.—Mine cost, loan repaid, and sundries, 621. 9s. 8d.; leaving credit balance, 1741. 10s. 2d. A call of 4s. per share was made. Capt. J. Roach reported favourably upon the position and prospects of the mine.

At Yarnier Mine meeting, on March 1 (Mr. J. Ware in the chair), the accounts showed—Balance last audit, 6561. 9s. 9d.; mine cost, merchants' bills, and sundries, 782. 17s. 4d.; 1438. 12s. 9d.—Calls received, 680. 13s.; ore sold, 2217. 8s. 4d.; leaving debit balance, 5277. 11s. 5d. A call of 2s. 6d. per share was made. Captain J. Hampton reported that their position is fast improving, and he believes the adventurers will be long to be amply rewarded for their patience and perseverance.

At Exmouth Mine meeting, on March 8 (Mr. W. Porter in the chair), the accounts showed—Balance last audit, 1555. 7s. 10d.; mine cost and merchants' bills, Oct., 719. 1s. 7d.; Nov., 717. 10s. 1d.; sundries, 1057. 3s. 9d.; dues, 541. 2s. 3d.—3181. 5s. 6d.—Calls received, 1092. 18s. 5d.; ore sold, 7667. 247. 0s. 11d.; leaving debit balance, 12981. 6s. 2d. A call of 4s. per share was made. Capt. J. P. and J. Nicholls reported that taking into consideration the improved prospects in the 72 north, the stamps' floors being complete, together with curtailing the expenditure as much as possible, they hope to sample more lead at less cost, and at the same time vigorously push forward the levels both north and south, to prove the unexplored ground in those directions, where there are good prospects of ultimate success.

At the North Roskear Mine meeting, on Tuesday, the accounts for Dec. and Jan. showed—Mine cost, 1804. 3s. 6d.; subsist, 381. 7s.; doctor's pence, 117. 16s. 8d.; bankers' interest and commission, 123. 10s. 9d.; water rents, 39. 3s.; dues, 139. 18s. 3d.; property tax, &c., 41. 8s. 7d.; merchants' bills, 579. 5s. 4d.—3420. 8s. 1d.—Balance last audit, 61. 18s. 10d.; copper ore sold, 1806. 8s. 9d.; tin ore, 1109. 17s.; arsenic, 1507. leaving debit balance, 3451. 3s. 6d. Messrs. Percival and Hutchinson were appointed the surgeons of the mine.

At Cargill Mine meeting, on Tuesday, the accounts for the three months ending Dec. showed—Balance last audit, 274. 11s. 10d.; calls received, 71. 5s.; lead ore sold (deducting 228. 19s. 1d. dues), 3269. 5s. 9d.—3551. 2s. 7d.—Mine cost, merchants' bills, and sundries, 2874. 6s. 6d.; leaving credit balance, 676. 16s. 1d. Capt. John Hooper reported that on March 8 the produce of four weeks' working (83 tons of lead ore) was sold for 1095. This is the first sale for the credit of next account, and he expects to have two others for the quarter. There are at present 47 men and 8 boys employed on the mine; 56 men, and 8 boys on tribute; 1 pitman, 8 fillers and landers, 6 engine-men, 1 carpenter, 2 smiths, 2 sawyers, 5 owners' account men, 1 dryman, and 8 men, 44 boys, and 21 girls dressing ores; and 18 persons dressing halvans, making a total of 236 persons.

At West Rose Down Mine meeting, at Salisbury, on Thursday (Mr. W. Fawcett in the chair), the cash account was received and adopted. Capt. Secombe reported upon the operations at the mine.

At Fowey and Par United Mines meeting, on Wednesday (Mr. W. P. Paul in the chair), the accounts showed—Calls received, 3000. 12s. 12d. ending March, 3547. 13s.; leaving credit balance, 2045. 7s. Capt. W. Pascoe (of South Wheal Frances) and J. Treddinck reported that there was great encouragement for the further prosecution of the mine. A double action 36-in. steam-engine, to drive 24 heads of stamps, has been ordered forthwith from Messrs. Nicholls, Williams, and Co., of Tavistock, for the purpose of proving the lodes below the adit.

At Wheal Tranacut meeting, on March 6, the accounts showed a debit balance of 50. 11s. A call of 10s. per share was made. Capt. W. Truman reported on the mine, "The tin crop is improving, and as soon as we have completed our engine, we will be able to drive east towards the junction of the kiln and granite, where, I doubt not, we shall find copper, as the great south lode made copper in the junction, which is about 35 fms. east of our engine-shaft."

At North Great Work Mine meeting, on March 8, the accounts showed a debit balance of 334. To discharge this, and to carry out some necessary operations, a call of 3s. per share was made. Capt. Joseph Vivian, jun., reported on the mine: he says—"The stopes in the back of the adit, on the south lode, will, we think, produce considerable quantities of tinstuff, which might be returned to advantage in case we were provided with stamping machinery and a burning-house, but which will hardly pay to sell to the purchasers of tinstone. Under the circumstances, we have made enquiries, and find that there is a small stamp to let, within about a mile of the mine, with a burning-house attached, which we believe may be had for about 17. per year, and which would just suit our purpose for the time. We have now on the mine about 35 tons of tinstuff, which, if returned by ourselves, would realise at the present price of tin probably about 50s., but which if sold in the stone would fetch little more than 20s. The cost of carriage from the mine would be about 1s. per ton. We have also on the mine ready for sale about 4 tons of copper ore, or nearly 300. worth."

At the Allt-y-Crib Mine meeting, on Tuesday (Mr. Parke Pittar in the chair), the accounts showed a balance of liabilities over assets of 381. 12s. 1d. Full details in another column.

At the Great Moelwyn Slate Company meeting, to be held on Friday, the accounts, from the formation of the company to Jan. 31, 1861, will show a cash balance at bankers of 433. 4s. 5d., and that the debts and liabilities of the company are 6599. 11s. 4d. The balance-sheet shows—Capital received, 11,286. 1s. 4d.; liabilities, 6599. 11s. 4d.—17,885. 11s. 4d.—Purchase money for quarry, 14,500. 1s. 4d.; preliminary expenses, 875. 2s. 6d.; office expenses, paid for reports, office furniture, and interest, 315. 9s. 8d.; outlay at quarry, 1761. 14s. 9d.; cash at bankers, 433. 4s. 5d.—17,885. 11s. 4d. The accounts were audited by Messrs. Cooper Brothers and Co., public accountants. The directors' report states that the interruption which the dispute (now in the solicitor's hands and likely to be speedily settled) between the managing director and the other members of the board caused to the advancement of the operations, together with the severity of the winter, has retarded the progress of the work, and prevented satisfactory results. Another local manager, Mr. W. Griffiths, who has laid out the workings in a new, and, as they believe, more efficient manner, hopes that slates will soon be ready for market. The directors have now obtained the promise of a lease from the Crown of an additional grant of land, which was much required, as it gives a supply of water for motive-power, which will save thousands per annum. It is hoped that before another annual meeting the profit arising from the quarry will admit of a dividend being paid.

At the St. John's United Copper and Lead Mining Company, Newfoundland (adjourned) meeting, on Thursday, a poll was taken upon the question as to whether the report of the directors should be adopted, or the company wound-up. At the conclusion of the poll there appeared 1105 votes in favour of the adoption of the report, and 104 votes in favour of Mr. Hughes' amendment to dissolve the company, thus leaving a majority of 1001 in favour of the resolution. About 130 shares were tendered in support of the amendment, but were not accepted, in consequence of the proxies being made in an irregular form.

At the Acadian Charcoal Iron Company meeting, on Tuesday, in consequence of there not having been sufficient shareholders present to form a quorum, the meeting stands still further adjourned till Tuesday next. In the meantime, however, it may be stated that the arrangements recommended by the committee of shareholders at the previous meeting have been adopted by the board of the Acadian Company, and an agreement with Messrs. Hunter and Chowne, the trustees of the Commercial Bank, upon that basis, is in course of preparation by the respective solicitors. According to the provisions of the Deed of Settlement, the annual general meeting of the company will take place early in April.

At the Kapunda (extraordinary general) meeting the resolution passed at the former meeting was confirmed, the resolution being to the effect—"That no person shall be qualified to be a director of the company who is not, and who shall not continue to be, the registered holder of at least 500 shares in the company."

At the Great Wheal Vor United Mines meeting, to be held on Wednesday, the profit and loss account for the three months ending December will show:—Black tin sold, Nov., 1455. 10s. 10d.; Dec., 1317. 19s.; Jan., 1272. 4s. 6d.; copper sold, Dec., 391. 2s. 2d.; sundries, as per last account, 11. 3s. 6d.—4089. 1s.—Mine cost, Oct., 831. 17s. 2d.; Nov., 831. 0s. 2d.; Dec., 839. 12s. 9d.; merchants' bills for three months, 806. 18s. 3d.; dues, 216. 1s. 3d.; leaving a profit of 564. 10s. 6d. A supplemental account, showing the financial state and all the known liabilities of the company on March 3, presents a balance in favour of the mines of 2868. 2s. 12d. The ground sunk and driven for the three months ending December was about 50 fms. The meeting will be made special for the purpose of considering and confirming, or otherwise, the resolutions passed at the special general meeting held on the 5th inst., and of making such alterations in the rules and regulations as may be necessary in consequence of the reduction in the denomination of the shares.

LEEDS, MARCH 14.—The Mining Share Market has been tolerably active, and prices have been well sustained throughout the week. Craven Moor, 2s. to 2s.; Hebden Moor, 1½ to 1½; Merryfield, 4s. to 4s. 6d.; Nidderdale, 4s.; Wensleydale, 7s. to 7s. 6d.; Yorkshire, 15s. to 20s.; Brea Consols, 16s. to 19s.

THE RELEATH MINING COMPANY and the EAST RELEATH MINING COMPANY (Crown and Wendron, near Redruth).—A meeting of shareholders in these companies was held in Leeds, at the offices, 16, Basinghall-street, on Monday, the 4th inst., Mr. Samuel Hay in the chair. Seven gentlemen were appointed as a committee to consider the expediency of amalgamating the two companies, for the purpose of working both grants under the same management, and all the known liabilities of the companies, and the steam-engine already erected at Releath Mine, and the shafts which are sunk there, can be made available for working both mines. They have recently made a discovery of a productive lode of copper, from 3 to 9 feet in width, in the adit level at East Releath Mine, and which extends through the Releath Company's ground. The mines have been inspected by Captains Champion and Pope, and gentlemen from the neighbourhood of Leeds, all of whom speak highly of the discovery, and report that there is every appearance of an abundant yield of copper, giving promise not only of paying costs, but dividends also. The shares are held principally in Leeds, some of the holders being gentlemen of high standing and respectability.—JOHN GLEDHILL and Co.

BOSTON, FEB. 28.—Through the month of February the transactions in Mining Shares have been light. Holders are unwilling to part with their stocks at current low prices. Under the present prospect of a peaceful solution of political difficulties, aided, perhaps, by the passage of the new Tariff Bill, the market closes with much more activity, and, in some instances, with an advance in prices. The new Tariff imposes a duty of 5 per cent., *ad valorem*, on copper ores—of 1½ c. per lb. on old copper;

2 c. per lb. on pigs, bars, and ingots; 2 c. per lb. on sheeting copper; 25 per cent., *ad valorem*, on other manufactures of copper. From the Ontonagon district the December returns were—Minnesota, 185 tons; Rockland, 38 tons; Superior, 5 tons; National, 7½ tons; Huron, nearly 23 tons; Pewabic, nearly 94 tons; Quincy, 40 tons, barrel work; stamps not running; the Isle Royale produce not weighed up. The accounts from all the mines named were satisfactory. The new smelting works at Portage Lake are making good progress. From Keweenaw Point, the January returns are not at hand. On a short trial, the new stamps of the Phoenix Company (Wayne's) were worked satisfactorily. The Central Company's mine is rapidly improving.—DUFFY, BECK, AND SAYLES.

GEOLOGICAL SOCIETY.—The next meeting of the Society will be held at Burlington House on Wednesday, when the following papers will be read:—Notes on a Collection of Fossil Plants from the Sandstones near Nagpur, Central India, by Sir C. Bunbury, Bart., F.R.S., F.G.S.—On the Age of the Fossiliferous Thin-bedded Sandstone and the Coal-beds of the Province of Nagpur, India, by the Rev. S. Hissop.—On the Relative Position of certain Plants in the Coal-bearing beds of Australia, by the Rev. W. B. Clarke, F.G.S.

GOVERNMENT INSPECTION OF COAL MINES.—Now ready, price 6d., a Second Edition of the NEW MINE INSPECTION ACT; to which is appended the ACT FOR THE REGULATION AND INSPECTION OF MINES, which came into operation on Jan. 1.—To be had from the Mining Journal office, or through any bookseller in town or country.

MINING AND SMELTING GLOSSARY.—Now ready, price 2s., a NEW EDITION, enlarged, of THE ENGLISH AND FOREIGN MINING GLOSSARY; to which is added the SMELTING TERMS used in France, Spain, and Germany. Published at the Mining Journal office, 26, Fleet-street, and may be obtained through all booksellers and newsmen.

LEAD ORES.

Mines.	Tons.	Price per ton.	Purchasers.
Carmarthen United	31	£13 1 0	Sims, Williams, & Co.
Wheal Ludcott	75	18 8 6	Sims, Williams, & Co.
North Wheal Exmouth	4½	10 12 0	J. Bibby & Sons.
Isle of Man Mining Company	100	15 11 6	Walker, Parker, & Co.
Maesyrerwddu	31	14 6 6	Walker, Parker, & Co.
Costa Lys	12½	14 0 6	ditto
Deep Level	20	12 11 6	ditto
Brynmor Hall	11	13 9 6	A. Courage and Co.
Herward United	16	12 0 6	Walker, Parker, & Co.
Speedwell	6	12 8 0	A. Eytton.
Rhosmor	60	13 11 6	Walker, Parker, & Co.
Orsedd	19	13 0 6	ditto
East Merilyn	16	13 6 6	A. Eytton.
Bryn Gwio	16	13 4 6	A. Eytton.
Parys Mine	33	13 4 6	Walker, Parker, & Co.
Grosvenor	8	12 18 0	Newton, Keates, & Co.
Treloggan	3	13 6 0	A. Courage and Co.
Holywell Level	10	14 5 0	A. Eytton.

BLACK TIN.

Mines.	Tons.	Price per ton.	Amount.	Purchasers.
East Wheal Lovell	5 0 3 25	£73 0 0	£368 11 0	Chyndour.
Trevels	2 9 2 3	60 0 0	170 17 0	ditto
Pennalls	5 11 3 6	60 0 0	403 17 9	Bischo Co.
Wheal Kitty	5 4 2 15	60 0 0	359 13 6	Bischo Co.
Trevels and Tremen	3 14 0 0	74 0 0	273 16 0	Charlestown.
ditto	0 14 0 0	46 0 0	32 4 0	ditto
Gr. Wh. Fortune	7 11 2 10	60 0 0	577 18 7	—
Stithney and Carn.	10 0 0 0	60 0 0	568 10 7	—

COPPER ORES.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
West Bassett	89	£14 19 6	West Alfred Consols	53	£3 5 0
ditto	82	5 19 6	ditto	34	2 1 6
ditto	67	3 5 6	ditto	33	1 18 6
ditto	65	5 19 0	ditto	32	5 6 6
ditto	63	5 10 0	ditto	55	7 16 6
ditto	61	8 0 6	Wheal Margery	55	5 17 6
ditto	56	7 7 6	ditto	54	4 19 0
ditto	49	6 14 0	ditto	45	10 12 6
ditto	45	6 4 0	ditto	7	14 1 0
ditto	35	3 5 6	Copper Hill	57	6 18 6
Great Wheal Alfred	71	4 16 6	ditto	47	2 19 0
ditto	59	4 0 6	ditto	40	6 16 6
ditto	47	3 1 0	Wheal Buller	84	3 8 0
ditto	39	3 10 0	ditto	29	11 6 6
ditto	38	1 1 0	Great South Tolgus	29	6 13 0
ditto	36	10 8 6	ditto	37	3 4 6
ditto	30	8 3 6	ditto	21	13 13 6
ditto	21	2 10 0	North Bassett	55	4 17 0
Par Consols	80	7 18 6	ditto	22	5 2 0
ditto	73	8 5 6	Wheal Anna	43	5 18 0
ditto	64	11 2 0	ditto	28	2 17 6
ditto	62	12 7 6	Wheal Agar	47	4

of this substance, when he compared it to a lump of clay dipped in tar (or crude oil).

A substance so rich in bituminous and volatile matters did not escape the notice of the gas companies for long after its thorough introduction to the public. In the gas experiments made by Dr. Fyfe, of Aberdeen, he found that while Newcastle coal gave 9833 cubic feet of gas per ton of coal, Wigan 10,851, this mineral gave 13,334 cubic feet of a gas richer, besides, in quality; and of this 5 ft. are equal to 33 candles. So rich, indeed, has it been found, that it can be consumed with difficulty in burners of ordinary description. In this country it has been principally used, in consequence of its excessive richness, in conjunction with inferior coals and Cannel, yielding gas far less rich. But the abundance of gas produced from a material so small in bulk has rendered it invaluable for purposes of exportation. The great value of this mineral as an oil-yielding substance was at once appreciated by one who lost no time in proceeding to action. Mr. James Young patented the making of paraffine oil from bituminous coals. Contemporaneously with the introduction of the mineral into the market in 1850, extensive chemical works were established at Bathgate, by Mr. Young, in partnership with Mr. Binney and Mr. Meldrum, for the manufacture of the various substances included under the patent, as yielded by the mineral in question. The manufacture includes two varieties of what is termed paraffine oil; the first a highly valuable, because most economic illuminating oil, preferred by many as a most efficient substitute for coal gas, particularly in country districts; and the second a thicker oil, extensively used for lubricating purposes. The chemical works produce likewise various cognate chemical manufactures. These works have gone on increasing year by year, and now absorb a considerable portion of the Torbane Hill mineral. Hence the power the gentlemen connected with these works have of fixing the price of the substance in the market, and hence the action against them by Mr. and Mrs. Gillespie, of Torbane Hill, the principal proprietors of the mineral, in the so limited mineral basin.

Whatever the result of the impending action may be to the individuals concerned, we trust that it will, once for all, settle decisively and authoritatively—that is judicially—in Britain what is and what is not coal. In Britain we say, for the Continent has, in the case of this substance, determined already. On the Continent no outrage on science, such as the affirmation that a mineral with a base of pure clay is coal, was ever, it would appear, possible.

EXPLOSIONS OF FIRE-DAMP IN COAL MINES.

GRANTING CERTIFICATES TO MANAGERS, &c.

A lecture "On Coal Mine Explosions" was given at the Coltness Ironworks, Lanarkshire, on Friday the 8th inst., by Mr. MARK FRYAR, F.G.S., of the School of Mines, Glasgow. In concluding, the lecturer said,—The coal mines of England are, generally speaking, more extensive and much more liable to explosions of fire-damp than those of Scotland: happily for the latter country, the rate of mortality from fatal accidents among its colliers is considerably below that of the former. For 1859, I find that the rate of fatal accidents in England is about 12·7 per million tons of coal raised, while in Scotland it is only about 9·3. The fearfully disastrous explosions of fire-damp which have occurred in various parts of England and Wales during the past four or five years have had the effect of greatly exciting public sympathy, and of directing general attention to this class of fatal accidents; and I think every one practically acquainted with the subject must admit that they are of a preventable character. We can scarcely, however, hope for any material decrease in the number of mine explosions until there is some higher and safer guarantee given for the proper qualification of underground managers. I believe I am right in saying that of late tendency in regard to educational standing and the proper practical training of colliery managers has been a downward one. Advantages for practical training are not diminished, but rather vastly increased, and opportunities for obtaining proper educational acquirements have also been considerably multiplied; but to a very great extent the class of men now filling the situations of superior managers of collieries is of a lower educational attainment than what the duties and responsibilities of their position require. This is not so much the fault of the men themselves, as it is that of the system which has placed them where they are. I do not mean to say that the best paid men are invariably the most qualified in every respect for the particular profession or occupation in which they may be engaged; but, as a rule, it must be acknowledged that in every department of science and industry ability in knowledge, and in proved practical application of that knowledge, has its price. It was a sensible enquiry which was made in the *Mining Journal* some time ago—"What amount of salary should be given to a man for managing a colliery where 300 tons of coal per day were to be raised to the surface?" and an equally sensible reply was given—"You must pay according to the standing of the man!" Now, we have happily no such thing as *caste* in our land of liberty; the poorest among us may rise to the highest position under the throne. So that the "standing of the man" cannot have reference to a man's genealogy, nor to the colour of his skin, neither can it have reference in such a case to his personal appearance, nor his physical power. No; it is the moral and intellectual standing that must be paid for; and if skill and talent cannot secure it in one place, it will seek for and obtain it in another. I would not argue that the class of men holding responsible situations in connection with underground colliery works, and who are deficient in the particular kind of knowledge and amount thereof which is essential to the proper discharge of their duties, should be removed from their positions, but that some efficient means should be adopted to induce them to seek after a proper qualification for their important offices, and that a standard of attainment should be fixed, to which all competitors for the situations of managers and under officers of coal mines must attain before they are allowed to receive any appointment. The objection against the compulsory examination of officers of coal mines, and granting them certificates of ability and experience, is that it would be the means of encouraging mere speculative knowledge, to the neglect of that practical tact and native ingenuity and skill so much required in directing the working of coal mines, and that the possession of these by an individual can only be proved in practice.

Now, however plausible such an objection may appear, it is certainly most unsound and untenable, for it admits the existence of a necessity to prove a man's qualification by an experiment which risks the lives of some scores or hundreds of our fellow-creatures, without first putting such qualification to the test by some simple process in which no risk whatever would be involved. Moreover, examinations could easily be conducted in such a manner as to prove a man's experience in, or practical acquaintance with, the direction and management of collieries, as well as his familiar knowledge of as much chemistry, physics, mechanics, and geometry as such a position, in point of both economy and safety, actually requires. Humanity and national intelligence demand that some satisfactory public guarantee be given for the fitness of men to conduct underground workings of coal mines before they are entrusted with so many of the lives of their fellow-men. It may be said that proprietors have a right to engage whoever they like as managers of their collieries, and no doubt they have, but this liberty of choice should be confined to men who hold certificates of fitness for such positions. The workmen themselves cannot be competent judges of the practical and scientific abilities of the man in whom they trust their lives, unless they are themselves familiar with everything that such a man should know—a very unlikely contingency. And many owners there are who are obliged to accept the services of a man simply on the faith of what they have heard respecting him, as they themselves are totally ignorant of the principles upon the right understanding of which the economy and safety of their collieries are entirely depending. It is, therefore, highly necessary and important that some board of examiners should be legally authorised and appointed to conduct suitable examinations of candidates for places of trust in connection with mining, and that class certificates should be granted to such of these candidates as might be found equal to the requirements appointed and established by the board. The appliances of known principles, and the adoption and carrying out of well-tried systems and plans, are well calculated to prevent much of the loss of life in mines incurred by explosions of fire-damp. The exclusive use of safety-lamps should be made imperative in all mines liable to sudden outbursts of explosive gas, and to be on the safe side of danger it would be well to enforce the adoption of a finer gauze than the one at present used. The flame of lamps may be safely protected by surrounding it with glass, and supplying air through the top and bottom of the glass. In the Cail and Glover lamps there is a double security of glass surrounding the flame, and air is supplied by passing down through between the glass cylinder, so that the outer cylinder is kept cool, and by this means the liability of the outer cylinder to breakage by coming in contact with cold water is avoided; and, moreover, if the outer cylinder

does get broken by accident of any kind, the inner cylinder still maintains the safety of the lamp. It is, in my opinion, the safest glass lamp yet invented, and may, therefore, be recommended where the Stephenson is objected to, as giving too faint a light. Complication in construction is a serious fault for a safety-lamp to have, and this is in some measure a drawback on the glass lamp just described. A powerful and vigorous ventilation is, doubtless, the best and surest safeguard against these dreadful calamities, and is unquestionably the most judicious and economic means that can be employed; and in the majority of cases, as long as the amount of air passing through the passages of a mine is maintained at a given *quota*, there is but a very remote danger of explosion of gases.

How very widely mistaken is the economy in colliery management which provides, meagrely and carelessly, for the adequate supply of air to the working places in the mine. Where *no fire-damp is made* the evils of imperfect ventilation are, notwithstanding, very great. It has been found that workmen can only perform three-fourths of the work in the climate of the torrid zone that they can perform in the average temperature of Paris. Inadequate ventilation permits high temperatures in working places of mines, and thereby diminishes greatly the amount of work a man would otherwise be able to perform. In other words, it increases the working expenses of the mine. Add to this the effect of vitiated air on the health and vigour of the workmen, its influence on timber in rapidly promoting decay, and thereby causing falls of roof and interruptions of work, and some notion may then be formed of the absurdity and inhumanity of deficient ventilation. Man requires about 3 cubic feet of air per minute supplied to him as an abundant provision of oxygen for the processes and sustenance of animal life; and under the most unfavourable circumstances it is an easy matter to produce in a coal mine a ventilation equal to 50 cubic feet of air per minute per man, so that no practical difficulty in the way of producing an adequate ventilation can be admitted. Much larger ventilation than this is produced in some collieries. Where any considerable quantity of fire-damp is made, from 100,000 cubic feet to 200,000 cubic feet per minute is at this day passing through some fire-damp collieries in England—a ventilation equal to from 200 to 500 cubic feet per man per minute. The manner of arranging the underground works, the system of work pursued, the plan of ventilation, and the means employed to produce ventilation, are all of them departments of work which require to be studiously investigated with a view to the safe and sanitary condition of the mine. The power of management of mines is a qualification of essential importance to the colliery manager: discipline in the mine, through a healthy moral influence, proceeding from a well-established and rigid observance of just and salutary rules, is as requisite in point of safety and economy as the knowledge and judicious application of those principles in mining science which we have already alluded to. A properly trained staff of under officers, appointed to carry into effect the directions and regulations of the chief manager in the various departments in the mine is indispensable in conducting the operations of fire-damp mines; and I am persuaded that the opening of lamps, and the lighting of matches for the purpose of lighting tobacco pipes, will be unheard of when men properly qualified in the aptness and tact to judiciously enforce discipline, also in practical ability, and in a familiar knowledge of those branches of science which have a direct and practical bearing on the art of mining—when only men of such qualifications are *allowed* to take upon themselves the important and responsible duties involved in colliery management.

SELF-LOCKING SAFETY-LAMPS.

At the time when the relative merits of the various self-locking safety-lamps, invented by Messrs. Mozdard, Waring, and others, were under discussion, it was suggested by several who were deemed competent to form an opinion that the acme of perfection in a safety-lamp would be to prevent the opening of the lamp altogether, as it was declared that a lamp which placed the power of opening in the hands of the man was dangerous, although its construction might be such that it could not be opened without extinguishing the flame, inasmuch as there was an inducement offered to carry matches into the pit for re-lighting the lamp after opening it. Carrying out the suggestion, Mr. Wright, patent agent, of New Bridge-street, Blackfriars, has just patented, for a correspondent, a lamp which it is impossible to open, except at the lamp-cabin, and which has an ingenious method of raising the wick, which effectually prevents the light being tampered with. The invention is alike applicable to the Davy and the Stephenson. The inventor, in his specification, says:—

My lamp has the same form, and possesses the usual wire-gauze chimney and top, as the ordinary Davy; but, in order to extinguish, to diminish, or increase the light, by elevating or depressing the wick, without taking off the chimney, I adopt the following plan:—On the top of the oil reservoir is placed the wick-bearer, which I form with the usual serrated wheel, which when turned raises or lowers the wick: the mill-headed button upon the end of this rack is formed with teeth, which gear into a pinion attached to the inside of the chimney, so that when the latter is turned to the right or left the pinion acting upon the rack raises or lowers the wick. The next part of my invention relates to the mode of fixing the chimney and cover to the oil reservoir, so as to prevent their removal without special apparatus. The part underneath the oil reservoir I form into two compartments, by means of a central diaphragm of steel, or other light substance, such that when formed in two equal portions, having the sides hinged or turning on centres, the interior edges will be perfectly air-tight when both flaps come into the same plane. In the upper compartment formed by this bivalve diaphragm, and the bottom of the oil reservoir, is a small lever, which is actuated by the opening and the shutting of the diaphragm, the bottom compartment formed by the said diaphragm and the real bottom of the lamp, which has its central part perforated with small holes. Passing through a tube from top to bottom of the oil reservoir is a small pin, encircled by a spiral spring, which when compressed forces the pin upwards; the bottom of the pin is connected with the lower compartment before mentioned. In the under surface of the cover is one or more recesses or indents of a diameter to fit the head of the said pin; the cover now being put on, is turned round until the pin comes over the recess in its under surface into which the spring forces it, and hence renders it impossible to turn it back and remove the cover without depressing the spring, which cannot be got at by the workman. When, however, it is required to be opened to refill with oil, or for other purposes, the following is the mode:—The two flaps of the diaphragm are in the ordinary state open, and hence the lever which is acted upon by them, and in turn acts upon the pin; is raised up, if the valves can be brought together the lever will be depressed and this depression will draw the pin out of the recess in the cover, and allow the latter to be removed; to do this I simply apply an exhaustor to the perforated bottom so as to withdraw the atmosphere, when the pressure from above closes the flaps, and thus brings down the lever and pin. By altering the position of the lever and flaps it will be seen that instead of using an exhaust, an upward pressure by the acting of steam or other means might be used.

MINERAL OILS.

The application of hydro-carbon oils has within the past few years so materially increased, that their manufacture is a subject which is now one of the most interesting in connection with mineral productions. In a recent Journal we referred to a very interesting volume, by Dr. Gesner, upon "Coal, Petroleum, and other Oils," and we now learn that an effort is about to be made to introduce the American earth-oils—a circumstance which will no doubt cause Dr. Gesner's book to be read with greater interest than ever. The hydro-carbon oils are certainly the most perfect substitute for illuminating gas that has yet been discovered—indeed, in many cases they are superior to gas itself; and the time is not far distant when the only objection to their use—their unpleasant smell—will be removed. Since the original introduction of oils for illuminating purposes, improvements have from time to time been made in the mode of manufacture, and better sources of supply have been laid open, which have greatly increased their use, and the discovery of the Petroleum springs in America will enable oil of a quality which will suit the most fastidious to be brought into the market.

Hitherto the least objectionable oil in the market has been unquestionably that known as Madden's Mineral Oil—the importer being Mr. James Madden, the well-known Oriental publisher of Leadenhall-street—and which we understand is manufactured in Germany from a shale peculiar to the district. In colour it is a pale amber, and in brilliancy fully equal to that substance; it has a very slight naphtha-like odour, and a specific gravity of about 8·33; and not the least smell is observable whilst the oil is burning. The price, too, of Madden's oil being the same as that of the lower qualities, the sale during the past season has, of course, been large, and we believe that it is an article which only requires to be more generally known to ensure an unlimited demand for it.

Not content, however, with thus enabling the poor man to procure a light of surpassing brilliancy at a cost below that of any other illuminating power within his reach—for the expense of providing the necessary fittings for using the coal gas supplied from the companies' mains is, in nearly every instance far greater than he can conveniently bear, Mr. Madden is now about to introduce another oil, which might fairly be designated a Hydro-Carbon for the Aristocracy; and we can see no reason why in future winters the country mansion of the nobleman and gentleman, although far beyond the reach of any local gas company's mains, should not be as brilliantly illuminated as his London residence. Mr. Madden has commenced the importation of American hydro-carbons of the greatest purity—limpid,

white, and clear as distilled water, free from smell as a wax candle, and of an illuminating power superior to any hitherto known in the English market. As we have alluded to this oil as especially adapted for the use of the rich, it might be erroneously supposed that an exorbitant price will be demanded for it; but, so far from this being the case, we are assured that it can be supplied in any quantity for about 5s. per gallon, so that the cost for a similar amount of light will still be only 1·15th or 1·18th that of wax candles. The springs from which these oils are obtained are well diffused throughout North America, and they will, doubtless, ere long be generally recognised as one of the most valuable illuminators in existence.

GOLD IN GREAT BRITAIN.

The attempt to extract gold, with profit, from the various metallic ores raised in this country has been a prominent subject of discussion even within the last few years, and it may not be uninteresting to learn that for the last two centuries and a half similar attempts have from time to time been made, though it would appear no single instance can be cited of success having been met with from *bona fide* working. We shall, therefore, give a brief notice of the principal inventions which have been brought forward relating to the extraction and treatment of gold and its alloys.

On Nov. 11, 1630, Mr. David Ramsey obtained a patent for an invention which related to the separation of gold and silver from other metals with the ores of which they were combined, and thereby saving the metals which were "dayly cast away" owing "to want of experience." The subject was revived in 1815, when John Postel patented "a method of extracting gold and silver from the cinders of gold refiners and other substances, by means of certain curious machinery." These cinders of gold refiners are reduced to powder, and the precious metals amalgamated with mercury by agitation, by revolving rakes in suitable vats.

The next gold patent we meet with is that of Mr. Alex. Parkes, who in 1847 proposed to treat sulphide ores for gold and silver, amongst other metals; he ascertained the character of the ore to be treated, and then added suitable ingredients to form a fusible slag. This slag was to float on the metal. Another somewhat similar process was patented in 1852 by Wm. Longmaid. Auriferous minerals, as quartz, limestone, sand, clay, and iron pyrites, are fused with ferruginous, alkaline, or earthy substances, and become fluid slag. The gold is then precipitated, either by its density or its affinity for iron calcined pyrites. Oxide of lime, lime, or fluor-spar, may be used for the fusing mixture. About 2 tons of crushed mineral may be fused at once in a suitable reverberatory furnace. When the charge is well fused the gold will mostly be precipitated by its density. If it is held in suspension in the slag metallic iron, as old boiler-plate, is introduced. The gold is precipitated on its surface, it is then plunged into a bath of molten lead, the gold combines with the lead, and is afterwards separated by cupellation. In the same year Mr. Parkes obtained another patent for extracting ores from auriferous lead and lead ores: he mixes certain proportions of zinc, according to the quantity of gold contained. The metals are heated, stirred, and allowed to cool, and the zinc and gold rise to the surface, and may be removed by perforated ladles; the lead may then be drained from it, the gold and zinc being separated in the usual way. We next have Mr. Abiather Potter proposing to amalgamate the gold by passing the pulverised ore through mercury. Within a few days of this patent, Mr. Stanislaus Hoga proposed to moisten the ore with solution of muriate of ammonia before amalgamating. The mass is separated by pressure, the amalgam passing through perforations in a cylinder, whilst the earthy particles remain. Passing one or two crushing inventions, including that of Mr. Archibald, for employing balls in circular grooves, we come to that of Mr. John Barker, for barrel amalgamation, for which, however, he received provisional protection only. Next Mr. Isham Baggs proposes washing the crushed ore in mercurialised wire sieves, the sieves being agitated in a frame, and the gold afterwards separated from the amalgam. In January, 1853, Mr. Arnold Buffum, of New York, proposes fans, or beaters, in the amalgamating vessel. The next invention which attracted any considerable attention was that of Mr. G. H. Bursill, according to which the hard substances containing gold were raised to a red heat with quartz, and precipitated into caustic ley. Softer minerals were treated with dilute acids. The gold is recovered by washing.

It was in May, 1853, however, that the machine which was really to make gold mining in Great Britain profitable was made known; it was then that protection was sought for the invention of the famous Hiram Berdan, but although he was so eminently successful in treating with the Britishers, his own estimate of the value of the discovery will be understood when it is stated that he obtained *no patent!* Mr. Jean Conrad Stiffel obtained provisional protection only for the "improvements (communicated by Hiram Berdan) in machinery for crushing auriferous quartz, and amalgamating the gold therefrom," which caused more loss of money in British mines within a few months than in a similar period at any other time. The ore was first to be broken small, then pulverised in an iron basin, which is attached to a shaft working at an angle of about 25° from the perpendicular. The basin has thus imparted to it a rotating motion, while it is held in a tilted position. A ball weighing about 2000 lbs. works in the basin; quicksilver is used for the amalgamating process, and heat may be applied by means of a furnace. The pestle and mortar appears to have been the next form of gold-crusher in high favour, and of these, perhaps, that of Mr. Bashley Britten was best known; in the bottom of the mortar he provided a circular groove, or channel, which was filled with mercury, to take up the gold. Within the last few years little has been done by inventors towards solving the problem of working the auriferous ores of this country to a profit, probably because the public had been so completely disgusted by the continued introduction of schemes especially concocted for playing upon their credulity, that it has been wisely thought that the interest of the subject would be best served by allowing the malpractices of the period of the gold mania to be forgotten before attempting to prove that wherever gold extracting has been tried upon British ores the results have always been most unsatisfactory.

THE MINERS' ASSOCIATION OF CORNWALL AND DEVONSHIRE.—On Friday evening last an instructive lecture was delivered to the members of the Miners' Association, at Camborne, by Mr. Richard Pearce, on the "Character of Minerals." Mr. John F. Basset, one of the vice-presidents of the Association, occupied the chair. Attention was given more particularly to a description of the chemical characters of the most important of our Cornish minerals, showing how very simply and effectively the metals of commercial interest, including those of iron, copper, silver, tin, lead, nickel, cobalt, &c., may be detected even when present in minute quantities in their ores, which was illustrated by blow-pipe experiments and simple chemical tests. The chemical composition of the minerals was also explained, showing that these natural combinations are not confusedly mixed together, but are united according to a beautiful law of definite proportions, which has been determined by chemical analysis. Simple calculations were also given by which the percentage composition of minerals may be arrived at by means of chemical equivalents. Mr. Basset, who was accompanied by the Hon. Mrs. Basset, expressed the great interest he felt in the lecture, and in the objects of the Association. Some of the mine agents, of whom several were present, also expressed similar sentiments. A letter was received from Capt. Charles Thomas, of Dolcoath, by the hon. secretary, explaining the reason of his absence, in which he stated—"I congratulate you in having obtained the consent of Mr. Basset to take the chair. This is a good beginning for the Camborne branch of the Miners' Association. The extent of support and healthful stimulus given to the Association by the active countenance of a gentleman of Mr. Basset's position in society must be very great. I beg to assure you that I highly approve of the efforts being made to diffuse among the young miners of this country useful knowledge, especially that of mineralogy and mechanics, and at the same time to give facility to miners of all ages for recording the results of their observations while engaged in their various departments of mining operations. Any little assistance I can give to the movement, as opportunity may occur I will do to the best of my ability. With the supervision of Mr. Hunt, and those associated with him, I have confidence that the course pursued will always have a practical tendency, and that no undue attention will be given to mere abstract science nor to philosophical speculations." A vote of thanks was given to Mr. Basset for his kindness in taking the chair, as well as to Mr. Pearce for his lecture.

CHAIN-PUMPS FOR MINES.—In another column we publish the announcement that Bastier's Chain-Pump, with regard to which we have upon several previous occasions expressed a favourable opinion, will be formally inaugurated on Thursday next at the Wheal Concord Mine, where it has been put down to a depth of 50 fms., and we understand that it is already complete, and in working order, and that the preliminary tests have been most

satisfactory. Invitations have been sent to a large number of gentlemen connected with Cornish and Devon mines, and advertisements published extending the invitation to those not otherwise communicated with.

REPORT FROM NORTHUMBERLAND AND DURHAM.

MARCH 14.—The Coal Trade continues pretty active here. The returns of the coal exports for February (published in Browne's Export List) exhibit a very large increase as compared with the exports in February, 1860; such an increase, indeed, as we have scarcely noticed on any former occasion. The total exports from the north-eastern ports having been 198,114 tons of coal, against 130,207 tons in February, 1860. The details are as follows:—From Newcastle, 91,111 tons, against 68,923 tons; Sunderland, 57,285 tons, against 31,793 tons; Hartlepool, 24,939 tons, against 12,726 tons; Blyth, 8925 tons, against 4755 tons; Shields, 4251 tons, against 7371 tons; Amble, 4718 tons, against 3977 tons; Middlesbrough, 2810 tons, against 891 tons; Seaham, 3575 tons, against 671 tons; Stockton, 100 tons. Several large vessels have been loaded lately at the south docks, Sunderland, some of them with Hartley steam coals, brought from collieries many miles north of the Tyne. This speaks volumes for those docks, with a sea outlet, and clear of bars and other obstructions. The practice of bringing coals from the Tyne to Sunderland appears to be on the increase. The Coal Trade is also good; the export of this article during February shows a large increase, the total exports having been 20,959 tons, against 13,208 tons.

The Iron Trade, unfortunately, still continues very much depressed; prices, consequently, remain very low. The make of iron, however, has not as yet been materially reduced in the district.

The report of the official liquidators of the District Bank has been published; it is very far from being a satisfactory document. The receipts anticipated during the past year have not by any means been realised. The main reason for this has been litigation with some of the partners in Messrs. Carr's collieries. The Derwent Iron Company have also paid less than the sum expected from them, the sum agreed upon being 60,000*l.*, of which they have paid 55,019*l.* The depressed state of the iron trade must operate against them. Fears are entertained that the American Tariff Bill will be signed by the President Buchanan previous to his retirement from office. This Tariff, it appears, is extremely hostile to our coal and iron trade. It is, indeed, feared that it will go far to annihilate our trade with the Northern States in coal and iron. But such a result must ultimately operate most unfavourably against themselves. It appears, indeed, to be a protective policy of the most rabid kind. It is difficult to believe that such short-sighted policy can be originated in the United States of America, and still more difficult to believe that it can possibly continue for any length of time.

The sinking of the shaft at Dewick's Main, in North Durham, is now proceeding rapidly, the metal tubbing having been properly secured on the rock head, after much difficulty and expense, as we formerly noticed.

REPORT FROM MONMOUTH AND SOUTH WALES.

MARCH 14.—After the many weeks that this portion of the *Mining Journal* was occupied with details in connection with the awful calamity which occurred at Risca, it is with feelings of the deepest regret that I find myself called upon to record another similar catastrophe in this district; not of the same dire extent, it is providentially true, but productive of feelings equally poignant, acute, and distressing, and hurrying out of life men of mature age and boys of tender years with lightning-like celerity, and with a certainty quite as awful. I allude to an explosion which took place on Friday last at the Four Feet Vein pit of the Blaengwawr Colliery, the property of Mr. David Davies. The workmen descended as usual, and had been engaged below two or three hours, when towards eight o'clock the fire-damp ignited, and, as it ultimately appeared, with fatal and most disastrous results. The utmost consternation prevailed in the locality, and energetic measures were adopted for the safety and relief of the men: eleven poor fellows were brought up dead, and two died in the course of that and the next day, while a fourteenth is rumoured to have since died, and several were found to have been more or less injured by the action of the fire. On Saturday a coroner's inquiry was opened before Mr. Overton, which stands adjourned until Tuesday, when the Government Inspector will, doubtless, be present. An explanation of the origin of the explosion has been given in the rumour of a man having passed a danger mark with a naked light; but perhaps, pending the public investigation, it would be imprudent to speculate upon the cause, though it may be stated that the colliery is generally regarded as satisfactorily ventilated, and the owner is spoken of as always manifesting anxiety and care for the safety of his workpeople.

An explosion has also occurred on ship board in the Bristol Channel, by which four men were instantaneously killed. The *Rosmo*, a Russian vessel, sailing from Cardiff with a cargo of 1000 tons of Welsh steam coal, shipped by Messrs. David and Son, and consigned to Gibraltar. "Knowing," says the captain, in his report which reached the Board of Trade on Friday last, "the peculiar character of the coal to generate gas in ships' holds, and the accidents that have taken place from the hatches being kept on, I kept our hatches off for several days after leaving port, and gave strict orders to the crew not to go below with a light. The hatches being kept off until the morning of Sunday last, when extraordinary heavy weather compelled them to be battened down to prevent the water getting through. The explosion took place about two o'clock in the afternoon, the ship being under all sail, and about 50 miles west of Lundy Island. There was no warning whatever, the force was tremendous, and for a moment the entire ship presented one sheet of flame. It blew up the decks entirely, carrying away the boats, destroying the sails and rigging, and bursting the bows. Four of the crew, who were below in the fore-cabin, were never seen afterwards, and must have been killed." The report further states that it was necessary immediately to abandon the vessel, which ultimately foundered. The crew took to two boats, both being picked up on Monday evening, one off Padstow and the other off Milford.

The number of accidents in collieries arising from falls of roof forms a large item in the annual returns, and no one can expect the list to diminish unless the most stringent measures be adopted with regard to the timbering of the roofs. The matter was one which was the examination of witnesses at the Risca Inquest, was brought prominently forward, and, doubtless, Mr. Brown will see the regulation applicable to the supplying and fixing timber in the Risca Colliery made more conducive to the safety of the workmen, which did not by any means appear to be the case before the coroner. Even where the rules are sufficient they do not seem to be duly carried out. At the Glamorganshire Assizes, on Monday, John Davies, an overman in the Cwmbarogwyr Pit, belonging to the Dowlais Company, was indicted for the manslaughter of Benjamin Davies. The case being of some importance, it may be well to give the principal portions of the trial. Enoch Davies stated that his brother (the deceased) and himself were, on Feb. 7, at work together about the west of Lundy Island. There was no warning whatever, the force was tremendous, and for a moment the entire ship presented one sheet of flame. It blew up the decks entirely, carrying away the boats, destroying the sails and rigging, and bursting the bows. Four of the crew, who were below in the fore-cabin, were never seen afterwards, and must have been killed." The report further states that it was necessary immediately to abandon the vessel, which ultimately foundered. The crew took to two boats, both being picked up on Monday evening, one off Padstow and the other off Milford.

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On Monday Dr. Teague commenced an inquest, at Berry Hill, in the Forest of Dean, upon the bodies of Nathaniel Hawkins and Thomas Jenkins, two men who, while engaged in their work in the Five Acres Walpit, near Coleford, were crushed to death by the fall of about 4 tons of earth. In order that the pit may be inspected by her Majesty's Inspector an adjournment was ordered until the 16th instant. Hawkins has left two motherless children unprotected for.

The stipendiary magistrate of Aberdare, Mr. Fowler, on Tuesday, very properly sentenced a man, named Evan Williams, to two months' imprisonment for smoking in the Aberdare Pit, contrary to the special rules. The magistrate intimated that, having done all in his power to induce colliers to forego the dangerous practice, he would no longer be trifled with, and offenders must expect infuture to risk a punishment of three months' imprisonment with hard labour.

During the week ending Saturday the shipments of iron at Cardiff presented an increase. They comprised—For Smyrna, by A. Hill, 204 tons of bar; for New York, 300 tons of rail; by Guest and Co., for Lisbon, 78 tons of rail; by Guest and Co., for St. Sebastian, 156 tons of rail; by the Aberdare Company; for Oporto, 13 tons of rail and 45 tons of bar; by Pinto Leite Brothers; for Bilbao, 338 tons of rail; by the Aberdare Company; for Barcelona, 298 tons of bar; by the Rhymer Company; for Coquimbó, 436 tons of rail; by Guest and Co.; for Pernambuco, 405 tons of rail; by the Aberdare Company; for Rotterdam, 82 tons of sheet by Booker and Co., 10 tons of bar by Guest and Co., and 26 tons of bar by A. Hill; for Galatz, 181 tons of bar; by W. Crawshaw; for Wilmington, 280 tons of rail; by the Rhymer Company; for Naples, 24 tons of bar, by W. Crawshaw, and 292 tons of bar and bundle, by Stitt Brothers; for Cadix, 64 tons of bar, by Page and Olsen; for Bahia, 612 tons of bar, by the Aberdare Company; for Genoa, 125 tons of bar, by Grant and Co. Between 16,000 and 17,000 tons of coal were exported foreign, among the cargoes being several approximating to 1000 tons each.

The week's exports from Newport were 8700 tons of coal coastwise, 2000 tons foreign, and 1230 tons of iron foreign. The trade of this port has been for some time very inactive, and the effects of the slackness of trade are visible on every hand. sanguine hopes of an improvement are now indulged in, the dock having become amalgamated with the West Midland Company. This, it is thought, will tend not only to increase materially the export trade, but to create an import trade, for the requirements of which the port has certainly every advantage of dock accommodation and railway communication.

The returns for the month of February show that the shipments exceeded those of the corresponding month of last year by 2310 tons. The total amount of the General Harbour Fund receipts, from all sources, was 2230*l.* 14*s.* 4*d.* There remains a small balance, the expenditure having been 2165*l.* 8*s.* 7*d.* The past week's trade has been about an

average. On Monday evening a fire broke out in Warlich's Patent Fuel Works, but it was subdued almost immediately, little or no damage having been done.

In accordance with a requisition signed by the traders, freighters, and other inhabitants of Newport, and presented to the Mayor, a public meeting has been called "To take into consideration a bill now pending in Parliament, for enabling the South Wales Railway Company to vary their existing agreement with the Great Western Railway Company, and to make other and better arrangements for developing and improving the traffic on the South Wales Railway, and to adopt such measures with reference thereto, and in support thereof as may appear beneficial for the interest of the traders and other inhabitants of the district." The subject is occupying the serious attention of the commercial community abutting on the South Wales line, the general complaint being that, regardless of the injury done to the South Wales trade, a withdrawal of the rolling-stock from the district immediately takes place upon any pressure of traffic being felt upon the Great Western lines. No doubt a petition will be adopted favourable to the bill.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

MARCH 14.—There is no noticeable abatement in the dullness which pervades the Iron Trade, and now that fuller details of the new American Tariff Bill have been received, former anticipations are more thoroughly confirmed of the injury which will be done to the British ironmaster by the imposition of these prohibitive duties. The demand for all descriptions of iron is inactive, and owing to the high rate of the money market merchants decline to purchase for speculation, so that nearly all the orders received are for home requirements. The railway department of the trade is in a more hopeful state, and orders for a considerable quantity of rails have been given out during the present week to two Yorkshire houses. The Steel Trade is dull, and the Sheffield hardware manufacturers are in a terrible state of despondency respecting the American Tariff Bill, as there are a large number of houses in Sheffield who do business almost exclusively with America, and whose goods will under the new law be shut out of the market. The remittances from America are slow and unsatisfactory, but a better tone prevails with regard to the Canadian and Australian trade, and good orders as well as punctual remittances have been received from those countries.

There is not so much activity existing in the Coal Trade as we have had occasion to notice for some time past, but the demand is sufficiently good to keep all collieries in full working condition. The successful adoption of the Derbyshire hard coal for locomotives is causing a great demand for this mineral, more especially as it can be used with much greater economy than coke, supplies of which are not always to be safely depended upon. The new lines of railway now making by the Midland Company, to extend the Erewash line to Clay Cross, and the Rowsley line to Buxton, are making great progress. The company are urgent with the contractors, in order to avoid delay as far as possible. The Erewash line will be completed to the main line of the Midland at Clay Cross during the next three months, and the Rowsley extension has reached Haddon Hall, midway between Rowsley and Bakewell. The works are heavy, and there is a large amount of tunnelling to be got through in the Peak, more particularly at Monsall Dale.

The practice of colliers absconding themselves from their work is becoming a serious matter with our coalmasters, who are compelled to sustain considerable loss and inconvenience, and they have determined to avail themselves of the law to remedy the evil. On Thursday the Dunston and Barlow Company, Derbyshire, took eight warrants for the apprehension of men who had been guilty of leaving their work without having given the usual fortnight's notice. One man who had thus absented himself was brought before the county magistrates on the charge, and committed for 14 days to hard labour, his sureties being told that he would not be at liberty after his imprisonment had expired, as he would still be liable to give his notice. Two colliers employed at Clay Cross were also brought up on a similar charge; one was discharged, on payment of 1*l.* 8*d.* costs, and the other was committed for one month to hard labour.

The Foundry Trade at Rotherham is very active, and there is no scarcity of orders. Messrs. R. and G. Harris, the founders, have recently turned out their works casting 32 tons 10 cwt., which is to form the head of an immense tilt-hammer at the steel works of John Brown and Co., of Sheffield.

Every week continues to reveal some glaring and lamentable instances of the absolute necessity for a strict government of the working of our ironstone mines. An accident occurred on Wednesday at the ironstone pits, the property of Messrs. Beale and Co., of the Park Gate Iron-works, near Masbrough. The company have eight ironstone pits at Newbold, near Chesterfield, all of which, though of different depths, are worked by one engine, by means of ropes and pulleys. Out of the eight pits there are only three which have a bell for signalling to the engine-tender, who is 260 yards from the farthest pit, and from 110 to 120 yards from the nearest. The engine-driver, on Wednesday afternoon at 4 o'clock, went out of his engine-house to whistle to the bankman to stop work, as it was time to do so. At one of the pits three lads, about 14 years of age each, got into a tub to come out of the pit, without any signal, and they were drawn up nearly to the pulleys. They jumped out, and the bankman caught two in his arms, but the third, his own child, hung from the cage, and a sudden stopping of the engine caused him to lose his hold, and his own father witnessed the death scene of his fall down the pit shaft—50 yards deep. Singularly enough, in his fall he caught hold of the conductor, and slid down the pit head uppermost; but the shock to his system was so great that he died in ten minutes after he fell, and the coroner's jury have returned a verdict of "Accidental Death."

A special meeting of the shareholders in the Mill Town Mining Company has been held, with a view to raise additional capital; but since the calling of the meeting the men have got into better work, and it is found that by working that part of the mine only they will be enabled to make the present capital sufficient for the purpose. Mr. C. Binn, the Chairman of the company, presided at the meeting.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

MARCH 14.—The Iron Trade continues without any indication of amendment, and is as much depressed in the northern as in the southern division of the county. Second-class makers are very short of orders, and even those of the first-class are not busy. The passing of the Morrill Tariff Bill, which according to the latest advices from the United States was regarded as certain, will, no doubt, have a prejudicial effect upon the trade, but many considerations tend to mitigate the apprehensions with which the probable passing of the bill was at first anticipated. It may be pretty certainly taken for granted that the seceding States will not consent to pay the enormous duties so imposed for the articles which they do not at all manufacture, and with respect to which their only interest is to get them as cheaply as possible. As the Border and the Western States have interests clearly identical, and as a long extent of inland boundary forms the separating line between the two divisions of the States, it may fairly be assumed that smuggling will render this attempt to impose prohibitory duties abortive, and the result will be that the operation of the duties will divert commerce from New York, and the other ports of the Northern States, to those of the South, and this will scarcely be submitted to quietly by the merchants of that part of the States, and in time it will make itself felt amongst the working classes, who are the arbiters of the destinies of the country. But the new scale of duties will operate in another way. So far as the rates serve to prohibit importations, they will produce no revenue; and even in the case of goods which might be imported under the increased rate of duties, the fact that they can be more cheaply imported at other ports will lead to an alteration in the direction which such goods will take in order to reach their destination. In both cases the revenue will suffer, and the necessity for imposing new taxes to make up the deficiency must soon render the Tariff unpopular, especially as the separation of the two divisions of the States must increase the State expenditure. We may, therefore, fairly anticipate that this retrogression, in opposition to the general advance of the enlightened principles of commercial interchanges, must be only temporary, and will occasion its own defeat.

The Hardware Trades are quiet, but not so dull as the iron trade. The last news by the Brazilian mail are less favourable, especially in reference to Buenos Ayres, where the want of a strong settled Government is again felt, and the hopes entertained of restored prosperity to that highly-fertile and naturally-favoured territory are again considerably damped. For the West Indies there is a fair demand for hardware. In some parts of the district a good deal of dullness is felt, and the accounts from Birmingham represent the trade there as generally dull, and the accounts from various districts show that there is an increase of bad debts, of returned bills, and applications for renewals.

Stealing coal is a crime very frequent in a district like this, where the premises of collieries are open to the public, and where mounds of rubbish often contain small portions of coal, which the poor are allowed to pick, the boundary between what is allowed and what is penal being very indistinctly marked. But the offence is largely committed below ground by a class occupying positions in society very superior to that of the coal stealers on the surface. It is extremely common for proprietors of coal mines to extend their workings into the land of their neighbours, and though the imperfection of the surveys may to some extent account for this, it is to be feared that it is in no small degree owing to an indifference to the distinction of *meum* and *teum* which induces the *error* to be very frequently on their own side and against their neighbours. Actions to recover damages on this account are frequent, but an instance has occurred this week of proprietors of coal mines being summoned to answer a penal charge for stealing coal in this way under the 7th and 8th George IV., cap. 27.

The defendants were Adam Hickman, Edward Hickman, John Hickman, and Edward Wright, and they were accused at the Dudley Police Court, on Monday, of stealing 10,000 tons of coal, the property of Messrs. A. H. Barrs and Co., of the Haden Hill Colliery, near that town. The case for the prosecution was that the defendants in June, 1859, leased a colliery adjacent to the prosecutors, which had previously been worked by Messrs. Humphries and Brettell. At the time that firm left the colliery it was supposed to be worked out, but after it had been taken by the defendants it was noticed that they commenced drawing a great quantity of coal of a superior quality to that which had been previously obtained from the pit. The men who were working in Messrs. Barrs' colliery stated to their employers that they could hear the workmen in the adjoining mine; and the complainants, therefore, ask permission to inspect the defendants' colliery. This permission had been refused, until Mr. Barrs had taken legal proceedings to compel them to allow his agents to inspect the pit. Upon Messrs. Barrs and Johnson, mine agents, going into the works, they found that trespass had taken place on Messrs. Barrs' mine to the extent complained of. A witness proved that the defendants had driven a gateway 34 yards through Messrs. Barrs' 10-yard thick coal. The accused were committed for trial at the Assizes, and the trial is fixed for to-morrow before Mr. Baron Wilde.

Two men were killed, and another very dreadfully injured, a few days ago, in a colliery near Ketley, in Shropshire, from the slip in which they were being lowered becoming detached by the hook of another chain in the shaft catching the couplet of that in which they were descending. They fell a distance of 100 feet, and two were killed on the spot. The life of the third man is despaired of. Mr. Wynne, the Government Inspector, was present at the inquest, and attributed the accident to the imperfect coupling of the chains.—It may be remembered that a strange accident occurred on Jan. 18 last, at the Wrythe Colliery, Brown-hills, near Wallisall. From the evidence it appeared that a candle stuck in a piece of clay against the side of a gateroad had fallen, and, probably, by falling on some shavings or dry wood and smouldering, it caused a considerable fire and much smoke; four men of the colliery, who were working, detected their position from the shaft near which the fire was, and which extended to a distance of 100 yards from it, were suffocated. It was supposed by Mr. Baker, the

Government Inspector, for whose inspection of the workings the inquest has been adjourned to this time, that the fire caused an upward current of air in the down-cast shaft, thus destroying the means of ventilation to the unfortunate men. One of them had succeeded in getting to the bottom of the shaft and pulling the wire to communicate with the engineman, who let down the skip, but no signal was given to raise it, and when he did so it was empty. It was night, and as smoke was pouring out of the shaft in dense volumes, some time elapsed before the poor fellows were extricated, and they were then dead. The boy who fixed the candle was in another part of the workings, but afterwards put out the fire with water, and got scalded by doing so. Mr. Baker said the plan of ventilation was admirable. He believed that the accident was caused by the fire, but said it was a usual practice to stick lighted candles in the way this was fixed, but that it should not have been left for so long a time without being seen to. A verdict of "Accidental Death" was returned.

Charles Kent, a bankman at a colliery near Wednesbury, was on Tuesday tried at the Assizes of this county on the charge of the manslaughter of David Houghton. The accident, by which two men were killed, arose from the defendant neglecting to put the wagon over the mouth of the shaft before pushing the skip upon it, and the men who were below were thus killed by the skip and its contents falling upon them. The prisoner was a man of good character, and, though he was convicted, was only sentenced to 14 days' imprisonment. As was observed in this letter at the time when the accident occurred, a new special rule will compel a provision to be made to render such accidents impossible in future.—On the same day, John Mason, an engineman employed at the Prior Green Colliery, Sedgley, was tried for a similar offence. By neglecting to stop the engine at the right time he had drawn the skip over the pulley, and Wm. Smith, who was in it, and who jumped out on seeing his danger, fell down the shaft, and was killed. The man had to attend to three pits, and this was urged in his defence. He was acquitted.

An invention by Mr. John Brown, for the prevention of boiler explosions, has been in use for some time at Messrs. John Bagnall and Sons' Iron-works, at Golds Hill, near Wednesbury, where he is engaged as manager, and is said to answer very well. It consists of a valve worked by a float in the boiler, so that in case of an insufficient supply of water—the cause of nearly all such accidents—it at once affords exit for the excess of steam, and warns the engineman of the source of danger. The apparatus can be attached to the boiler for 8*l.* or 10*l.*

MASTERS AND WORKMEN.

A Lecture by MARK FYTAR, F.G.S., Mining Engineer and Lecturer on Practical Mining in the School of Mines, Andersonian University, Glasgow.

Our social relations in life are numerous, and have their degrees of importance from their most intimate and endearing bonds to the most remote, although imperative, duties that we are called upon to discharge towards our fellow-creatures. In their scale of importance and of individual and national interest, far from the least is that of employers to the employed, or employed to employers. There is a grand moral responsibility attaching itself to each class, which is, alas! but too frequently lost sight of, and which is part of the purpose of this lecture to point out. "Servants be obedient to them that are your masters according to the flesh, with fear and trembling, in singleness of your heart, as unto Christ. Not with eye service as men please, but as servants of Christ, doing the will of God from the heart. With good will, as to the Lord, and not to men. Knowing that whatsoever good thing any man doeth, the same shall he receive of the Lord, whether he be bond or free. And ye masters do the same things unto them, forbearing threatening: knowing that your Master also is in heaven; neither is there respect of person with him," is a scriptural injunction, full of significant and practically valuable instruction. "A fair day's wages for a fair day's work," is a motto which finds acceptance, and, rightly so, with that class of the community who have to earn their bread, literally, by the sweat of their brow; and, indeed, it is the motto of all classes, however high their aims and their pecuniary position in society, or however large their requirements in the comforts and luxuries of life, for we are most of us working men in the strictest sense of the term; but those of us who are in the class of the employed should ever bear in mind the important duties involved in the motto, which perhaps would be more significantly expressed by "a fair day's work for a fair day's wages." A conscientious discharge of duty in every relation in life implies the strict observance of some of the most weighty and the most essentially useful of ethical laws. There is an innate moral principle within the breast of every man which seeks after its own development, and, unless tampered with and repressed by the will, leads to a course of conduct in the man which is sure to be productive of the best of all human consolations—namely, a conscientious satisfaction of having done what was right. "Conscience, uninfluenced and suffered to speak out," directs us in the ways of life leading to the best and highest of human enjoyments, and to the acquirement of earth's choicest blessings. *Habit of doing, as well as habit of thinking, is the great secret in the character of every man, whatever his position or calling in life.* When once a course of conduct has been entered upon and continued for any length of time, especially where any real or apparent present advantage or enjoyment is derived therefrom, it requires a prodigious effort of will, and the direct influence of a powerful incentive, to entirely alter the habit. Whatever we may have been accustomed to for any considerable period of life, hangs about us, and lives with us, as a kind of second self, exercising an almost irresistible spell over our every-day existence.

The words "Duty," "Justice," "Truth," and "Benevolence" are but too seldom allowed to have their due and proper weight upon our minds. We each of us owe a duty to ourselves, and the proper discharge of this duty can only be effected by a careful investigation of what our duty may be to others. If by an improper use of time, money, or opportunities we may acquire temporary self-indulgence or profit, the violation of duty is an act of transgression against our own integrity, as well as an injustice and a lie to those who, relying upon our integrity, have reposed in us a confidence and a trust. *There is a true nobility of Nature, finding expression and development in the life of man (whether the employed or the employer), by an active benevolence and a high sense of duty and truth, which cannot fail to command respect and secure its own proper appreciation and reward.* There are two classes of individuals implied by the name given to this lecture—viz., "Masters" and "Workmen," and I shall speak of them in the order here presented to us.

The name "master," as here used, simply implies the relation of the employer to the employed. There are, of course, legal responsibilities, binding the master to the performance of certain duties which he owes to his servant, but of these it is not my purpose at present to speak. The moral and social responsibilities and duties are of equal importance with the legal, and appeal to the higher and nobler part of human nature. There is no merit due to me for the performance of what I am obliged or compelled to; but the actions arising out of a proper consideration of my moral responsibilities lay claim to the happy influence of an approving conscience, and the approbation and respect of a discriminating public. The best and purest feelings of humanity are generally considered as being expressed by simply referring to the "heart." Here we see regard for the sufferings, the deprivations, the labours, and the unfortunate ignorance of those brought into immediate contact with us in our every-day life; sympathy with the afflicted and distressed, active benevolence, relieving the necessities, ready assistance to a poor man struggling with his poverty, willingness to inform and instruct the aspiring after knowledge, cheerfully promoting all useful means for the self-improvement and elevation of the labouring poor; encouraging by words and example the despairing and the hopeless, reproving and directing the thoughtless and the careless; in short, carrying out all the ways and means for doing a moral and social good, as suggested and prompted by a generous and benevolent heart.

A master, or employer, is in a position to exercise a most potent moral influence, either for good or evil; his example is very likely to be copied by his workmen to some considerable extent, especially if he is brought frequently into contact with them, and is, consequently, in some measure acquainted with their individual circumstances and character. The doctrine of moral influence is one almost, if not altogether, universally believed in, but in practice too often ignored or forgotten. By my example my fellow-man may be made drunken, licentious, dishonest, dishonourable, brutish; and if so, there is no tribunal in the universe before which I shall be accounted guilty of inducing and promoting my brother's ruin? No judge to pass judgment in such a case as this? Ah! there is but too great an evidence of the existence of such a tribunal and such a judge in the very response made to these questions by the heart and conscience of everyone who has thoughtfully listened to them.

Masters are morally responsible for the comfort and, in some degree, cleanliness of their workmen and their families. We admit the existence of a certain degree of independence of spirit and of action in most men, and that the proper use and cultivation of this is likely to be of great advantages to the individual possessing it we are quite ready to allow, but if the established habits of the man lead to a regardlessness of home comforts, and entire neglect of his family's interest, both in provision for their bodily and mental requirements, it behoves the master to use his influence in correcting and reforming the moral conduct and domestic life of his workman.

The dwelling-houses provided by masters for workmen most imperatively call for the exercise of considerable thought and prudence. The health of the family, facilities for maintaining cleanliness, a sufficient number and a proper division of the sleeping apartments, seclusiveness from neighbours, are all questions which require thoughtful attention, and should be allowed their proper weight in arranging and constructing workmen's

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dwelling. The effect on the feelings and affections of the employed, produced by an evidently studious thoughtfulness for their home comforts and enjoyments on the part of the employer, is of very much greater importance and direct personal interest to the latter than a mere passing thought on this subject would lead one to suppose.

The cottage of the poor man is as sacredly and as strictly private to himself and family as the mansion of the rich, and no master has a right, either legally or morally, to intrude himself into the home secrets and family seclusiveness of his workman's home. There is, however, an outward expression of character, a public exhibition of the man, however private his walk in life, which is seen and unmistakably known and understood to the mere cursory observer. It is this phase of life that becomes an index to the whole man, and by a consideration of this the man may be benefited in wholesome counsel or good moral example. What a vast field for thought is opened up to us by taking a comprehensive view of human nature!—The workings of the human mind, natural and acquired tastes; the influence of birth, circumstances, education, and physical and mental constitution; the hopes and fears, ambition and despair, contemplation and reflection; the calm and considerate calculation, and the hasty daring and impulsiveness; and the contentment, combined with frugality and meekness; and the unsettled wavering and instability which, "like the troubled sea, casteth up mire and dirt." How wonderful to man is man, when viewed in the light of that philosophy which reveals to us but this much of one of the phases of human life!

The study of human nature embraces the study of the management of men.—That this subject should receive careful attention from an employer, or agent appointed to superintend a number of workmen, no one, we apprehend, will be obtuse enough to deny: to ignorance of this, or an inability to make proper use of the knowledge if possessed, may be traced the majority of the disturbances so frequently occurring, in the shape of "strikes" or "standings out," between masters and workmen. Discipline consists in a rigid observance of law, and a firmness in enforcing obedience to orders and arrangements: but how often do we find this mistaken for a very offensive, domineering, and insolent mode of issuing commands, which, if obeyed at all, is only so done from a feeling of necessitous servility, and not from the more manly and elevating conviction of duty. Combined with the strictest discipline there can be sympathy with suffering, a ready attention to all narrations of grievances, and, if practicable and just, an equally ready redress granted. The Scottish bard declared a truth, but too frequently exemplified, when he sang—"Man's inhumanity to man makes countless thousands mourn;" the converse of this would be a proposition equally true: man's humanity to man would promote and secure—and, we believe, does do so—the enjoyment and happiness of countless thousands.

Educational provision in the shape of school-rooms, and the appointment of teachers.—I am glad to find myself writing at a time in the history of this country when so little need be said on this subject. Masters of workmen are at this time practically proving their belief in the moral obligation they are under, to place an efficient means of education within the reach of the poorest amongst their employes; and, in addition to this, in many villages may be found circulating libraries, reading-rooms, periodical lectures, evening classes for instruction in the useful branches of learning, and, in many cases, all these encouraged and supported by the employer and his agents. Well, we rejoice in being able to speak in this way. It is much more gratifying and pleasing so to do than to have to lament the entire absence of such an important provision. The very employment of labour creates the necessity for institutions such as we have enumerated, and for places of worship; and the promotion, and, in some measure, the support of these is an obligation and a duty morally binding on the capitalist and employer. We are dealing with questions of duty morally incumbent upon masters; and it is comparatively easy to enumerate the more evident and prominent of these; but a penetration into the less conspicuous bearings of this subject reveals to us phases of social relationship almost too delicate to be brought before the public. It is difficult to determine how far an employer ought to go in interference with the moral conduct of his employes; but when this question assumes a social aspect the difficulty disappears, as then, supposing the individual or individuals to effectually guard themselves against the iron hand of the civil law, there is still, generally speaking, a wide margin of right and of necessity for the active interference of the employer. Entire neglect of the ordinary and highly necessary education of children is unquestionably a moral evil, and as regards the relation of parents or guardians to these children, a social wrong; but how far this neglect of duty should be interfered with by the civil law is a problem of no very easy solution. Here it is, we think, that the employer may exercise his authority with a very salutary effect, by making the attendance of children at the schools provided for them a condition of employment: he cannot be charged with making an attack upon the civil rights of Her Majesty's subjects; nor do we think that any man of good understanding, and of healthy moral feelings, be he either master or workman, would question the reasonableness and morality of such a condition.

There are other duties relevant to this subject—of the master's relation to his workmen, which I need only mention, as happily in most cases they are now made imperative by the British Government. One is the sanitary condition of the place of work, the proper ventilation of large workshops, mills, manufactories, warehouses, and coal and ironstone mines. Alas! for the poor miner for minerals other than those found generally in the coal measures, he is uncared for in this respect, at any rate as far as Her Majesty's Government is concerned. Another is a proper use of means for protection against accident to life or limbs. How strange that the above exception must here again be made! I do most sincerely hope that something will be done by way of removing this glaring inconsistency during the next session of Parliament!!

[To be continued in next week's Mining Journal.]

ON THE PRESENCE OF CHLORINE IN COAL.

BY MR. THOMAS J. LEADBETTER.

No attempt has been made, so far as I am aware, to ascertain the quantity of chlorine in coal. The presence of chloride of ammonium among the products of the destructive distillation of coal has been noticed by Fownes and others; and it has also been observed that when the ammoniacal liquor of gas-works is concentrated by evaporation crystals of that salt are deposited. Manufacturers of sulphate of ammonia have likewise found that a notable quantity of combined ammonia remains in the still after the carbonate of ammonia has been distilled off. In a particular sample of this residual liquor from the still, I found 506.4 grains of chlorine per gallon; and in two samples of undistilled ammoniacal liquor I found respectively 156 and 76.4 grains per gallon.

The existence of so large a quantity of chlorine in this ammoniacal liquor, suggested to me that it would be interesting to ascertain the proportion of chlorine in coal, and for this purpose I undertook a series of experiments with various samples of Cannel and other coals obtained from different localities of Scotland. One thousand grains of each sample were boiled in distilled water, and the insoluble portion being filtered off, the chlorine was estimated in the filtrate by nitrate of silver in the usual way. The following table shows the results obtained, with the calculations to a ton:

Name of Coal. Cl. PC. Cl. per ton. Name of Coal. Cl. PC. Cl. per ton.

Leamington 0.15292 2383 Barton's Holm 0.09277 1454

Boghead 0.12369 2928 Monkland 0.27381 4393

Bank Coal 0.17300 2712 Tharkeaton 0.04948 775

Knightswood 0.19791 3103 Soft Coal 0.04948 775

It appeared also desirable to test the ash of the above coals for chlorine, and with this view a known weight of the coal was first coked, and afterwards ashed in a platinum crucible, and the ash being boiled in water was tested in the usual way for chlorine. In the ash from several of the samples no trace of chlorine was detected, and in the others only a minute and inappreciable quantity was found. It is, therefore, evident that when coal is distilled or carbonised in close vessels, the chlorine is expelled with the volatile matters, and this fact affords a satisfactory explanation of the circumstances that no mention is made of the presence of chlorine in the various analyses of the ash of coal published in different chemical works.

In another set of experiments with the same coals, I distilled a portion of each in an iron tube, and carefully tested the distillate for chlorine. In every case I found conclusive evidence of the presence of an appreciable amount of chlorine.—Laboratory, Andersonian University, Glasgow.

Now ready, price 6s., or 78 postage stamps, Mr. THOMAS TAPPING on the COLLIERIES AND ORE-MINE INSPECTION AND TRUCK ACTS. The work can be had from the Mining Journal office, 26, Fleet-street.

WEEKLY LIST OF NEW PATENTS.

GRANTS OF PROVISIONAL PROTECTION FOR SIX MONTHS.—WM. SMITH, and M. WARELY, Coal Mawr Pool Mine: Mechanism or apparatus for crushing or breaking up ores, stones, and other hard substances.—T. COBLEY, Meerholz, Hesse, Germany: Manufacture of white lead, zinc white, and glazing or potting lead.—J. DUTELLE, Rue St. Martin, Paris: Improved alarm-whistle applicable to steam-boilers, and indicating the level of the water therein.—R. LAINO, Ince, near Wigan, Lancashire: Treatment of certain ores containing metals, and in obtaining products therefrom.—JOHN HOOD, New York: Improvements in machinery for forging nails and other articles.

PEROXIDE OF LEAD.—Some improvement in the manufacture of a peroxide of lead, having peculiar oxidising properties, has been provisionally specified by Mr. Nicholson, of Kennington-road. The invention consists in substituting commercial oxides of lead, such as litharge, or red lead, in a fine state of division, to the combined action of atmospheric air and steam in a suitable apparatus. The oxides are to be kept exposed to a temperature of from 575° to 600° Fahr., for from forty to sixty hours, or longer if necessary, and are to stirred during such exposure by suitable apparatus. The mixture of air and steam must be heated to a similar temperature before admission to the oxides. The product is a brown powder, having very energetic oxidising properties.

PURIFYING COAL GAS.—An invention has been patented by Mr. John Stenhouse, which consists in purifying coal gas, or sulphuretted carbon, by treating the gas with spirits of wine, wood spirit, or fusel oil; he also takes solutions of potash, soda, and ammonia, with their sulphurets and carbonates, dissolved in the above alcohols; he likewise adds rectified coal naphtha. He treats the gas with these liquids by the well-known apparatus called a washer, or any other mechanical arrangement.

MANUFACTURE OF GAS.—Some improvements in the manufacture of gas have been patented by Mr. John Leslie, of Conduit-street, Hanover-square; for these purposes, in distilling coal or other substances, the gas, in place of being conducted off from the upper part of the retort, and thence into the hydraulic main, is caused to descend from the retort at the lower part thereof into a chamber, and thence the gas is conducted off by a pipe at the upper part of the chamber to purifiers. Several retorts may be connected with the same chamber, in which case they each have a slide or other valve to shut the entrance into the chamber. And in purifying gas, a solution of a salt of copper, preferring the sulphate, is employed to saturate wood shavings or other porous material, through and amongst which the gas is caused to pass. The purifying matters thus employed are from time to time subjected to the passage of atmospheric air amongst them, to re-prepare them for the further purification of gas therewith.

ARTIFICIAL SULPHATE OF BARYTA.—Mr. A. Seitz, of Gustrup, Mecklenburg Schwerin, provisionally specified an invention, the essential part of which is the formation of chloride of barium out of natural sulphate of baryta, and hence the production of an artificial sulphate of baryta, useful in the manufacture of all kinds of paper, instead of lime, and for the preparation of white paint instead of white-lead, over which it has the advantage of not getting discoloured by sulphuretted hydrogen or impurities of the air. When mixed with zinc white, a very superior paint is produced for the finest purposes.

MANUFACTURE OF OXYGEN GAS.—The economic production of oxygen gas is, doubtless, a feat which would confer great advantages upon various branches of art and industry. Mr. Christopher Binks has provisionally specified an invention by which he hopes to attain the object in view; it consists in effecting the decomposition of water, free or combined, or in its ordinary form, or in that of steam, through the agency of chlorine mixed with or brought in contact with it, under a high temperature, and the conjoint action of any substance capable of retaining or fixing the hydrochloric acid formed by the reactions between the hydrogen, the water, and the chlorine, but not capable of retaining or fixing the oxygen, which is thus set free in a gaseous form.

WHEEL TYRES.—To prevent accidents in the event of the tyre breaking, Mrs. Rebecca Thomas, of Bath-street, proposes to form the tyre of the wheel with lugs or projections on the edges thereof, at certain distances apart, the lugs on one edge coming opposite to the spaces between the lugs on the other edge. These lugs are intended to embrace the felloe of the wheel, and may be connected thereto by screws passed through said lugs, or by bolts and nuts, or the said screws or bolts may pass through the tyre and felloe, or be secured to the tyre and wheel in any convenient manner.

CORK CUTTING MACHINE.—Mr. B. Belzon, of St. Paul de Fenouillet, proposes to employ an endless knife, which is set in motion (always following the same direction) by two conical pulleys with nuts which stretch the knife. These pulleys are intended to embrace wheels, set in motion by means of an endless screw which tooth into each; a projection on the wheel keeps the knife in position; this movement of the knife being obtained, circular motion is to be given to the cork in front of the blade, and for this purpose a chariot issued, which rises and falls with the framing on which it is placed by the action of rods and toothed wheels, and the centre of a rod changing during the revolution of a wheel; the chariot rises as the wheel turns, and a smaller cork is produced; the chariot being retained in this position by catches on the wheel; if one of the wheels turns more than another, a conical cork will be produced. The chariot is kept against the endless screw during the cutting of the cork by a large wheel and band, and small wheels which turn the cork holders (which are of copper or other metal), and they are to be changed according to the size of the cork required to be made; these pieces turn round a movable metal rod which never requires changing; its cylindrical thickness being such that carrying the cork holders its diameter will not exceed that of the smallest sized cork, therefore, it is only the ends of the cork holder which will have to be changed.

SILK-SORTING PROCESS.—A specification has just been filed by Mr. Henry, patent agent, Fleet-street, as a communication from Mons. Huguet, of Paris, relating to an invention, in which it is proposed to sort silk and other yarns and threads of irregular thicknesses or tenurities, by winding them on to reels or other receiving appliances, the same length on each, and then weighing them separately, so that those of the same weight may be classed together, when they will be found sufficiently sorted for manufacturing purposes. In the apparatus preferred, the receiving appliances consist of a number of rimmed discs or rings, strung in a row upon a revolving cylinder, with smooth surface, the rings being of precisely equal weight with one another, and the threads are wound on to them from reels at the bottom of the frame. The cylinder communicates with a workman's table.

NEW AIR-ENGINE.—This engine, recently patented as a communication from Monsieur Millou, of Paris, by Mr. Henry, patent agent, Fleet-street, is characterised by an improved regenerator—a furnace kept in continuous communication with the working cylinder; arrangements for compensating mutually between the latent caloric of expansion and that of compression by pistons of metals with intervening openings; and a construction whereby the motive fluid is entering full into and expanding in the working cylinder during the whole stroke.

CHAMBER LAIDROISE'S STOVE.—Among recent specifications is a patent of Mr. Laidroise (passed by Mr. Henry, patent agent, Fleet-street), in which an improved stove is described for heating tailors' irons, and other such irons. This stove consists of an inner or fire chamber, and an outer or heating chamber, the iron being held between the two, which are so constructed as to enclose it at all parts, except at the handle, providing, however, for the necessary expansion of the metal. The chambers are polygonal, and have slightly sloping sides. The handle of the iron projects outside, so that it does not get heated, and a boss, or swelling at the base of the handle, plugs up the opening from which it protrudes, and so prevents entry of cold air. The stove may be mounted on a revolving table to bring the required compartment within the user's reach. The top of the stove is closed either by a metal pan and telescopic chimney, or by a cooking and heating apparatus, which consists of an annular hot flue, closed in by a plate, gridiron, grate, or pan. A stepwise reverse cone grate is recommended for the stove.

MINE AGENT.—A GENTLEMAN who has found a VALUABLE LEAD MINE on his own property, free of all claim, WISES to MEET with an AGENT who will INSTRUCT HIM how to DISPOSE of IT to the best advantage. The advertisement in this day's Journal, under head of "Lead Mine to be Sold," will give further particulars.—Apply to the owner, T. H. ARMSTRONG, 37, Granby-road, Manchester.

WANTED, by an experienced mining and marine engineer, in England or any healthy country, a SITUATION as ENGINEER, or ENGINEER and PURSER or SECRETARY combined. Or, a remunerative AGENCY in LONDON for an extensive firm.—For references and testimonials, apply to "R. S. London-street, Farringdon, W."

WANTED, a BOOK-KEEPER, who must be able to produce most satisfactory references as to character and efficiency. He will be required to have had experience in copper ore calculations and accounts. A knowledge of Spanish and French languages would be desirable, but not indispensable.—Apply to RICHARDSON and Co., Copper Ore Wharves, Swansea.

TO CIVIL ENGINEERS, SURVEYORS, &c.—WANTED, by a steady, sober young man, a SITUATION in the above line as IMPROVER. Understands surveying and levelling. Wages not so much an object as a permanent situation.—Address, "R. W.," Post-office, Llanelli, Carmarthenshire.

TO MINERS.—As reports have spread of indications of rich mineral wealth on the lands west of the parish road leading from Broomhill to Harford Bridge, in the parish of Harford, Devon, mineralogists are invited to an inspection, by an application to Mr. BARONS, Lower Cadleigh, near Ivybridge, Devon.—N.B. A premium is expected before striking a pick.—Dated Cadleigh, March 7, 1861.

TO CAPITALISTS—A SAFE INVESTMENT.—The LEASEHOLD of a SLATE and SLAB QUARRY TO BE DISPOSED OF. It has been worked for upwards of 23 years; 62 years of the lease are yet unexpired. The set contains about 1500 acres, and on several parts thereof indications of slate rock are exhibited.—Particulars, and the reports of the ablest quarry conductors of North Wales, will be given on application to W. T. OWEN, Llandderul, Corwen, North Wales.

FOR SALE, a SHARE in a SLATE QUARRY in SOUTH WALES, for about £3000. The present proprietors are gentlemen of position and responsibility. The quarry is in full work, and the profits will be considerable. The highest references given and required.—Address, with real name, to "A. B.," care of Messrs. Salter and Kossiter, 17, Abchurch-lane, E.C.

FOR SALE, at the low price of \$4 per ton, EIGHTEEN NEW COATED CAST IRON WATER PIPES, 9 ft. by 15 in.—Apply to ADDISON and WHITEHEAD, 146, Leadenhall-street, E.C.

FOR SALE, OLD TYRES and RAILS.—WANTED TO PURCHASE, LUMP SCRAP; also, SERVICEABLE RAILS, fit for relaying.—CRAWFORD BROTHERS, Newcastle-on-Tyne.

FOR SALE, a FIRST CLASS PAIR OF NEW HORIZONTAL HIGH PRESSURE STEAM ENGINES, complete. Cylinders 25 in. bore and 4 ft. stroke, wrought-iron cranks and wrought-iron shaft, 12 in. diameter.—Address, J. and W. LEIGH, Patricroft, Manchester.

ON SALE, NEW HORIZONTAL HIGH PRESSURE STEAM ENGINES.—One 30 in. cylinder, 5 ft. stroke, Cornish valves, for winding and pumping, or for both; one 24 in. cylinder, 4 ft. stroke. Also, 20 in., 18 in., 16 in., 14 in., and 12 in. cylinder engines, with 3 ft. stroke; 14 and 12 in. of 2 ft. stroke, and 8 and 10 in. of 18 in. stroke. Those which are not actually completed are in a very forward state.—R. J. and E. COUPE, Clayton Foundry, Wigan.

SOUTH-EASTERN RAILWAY—CONTRACT FOR THE SUPPLY OF STORES FROM 31st MARCH TO 30th SEPTEMBER, 1861.—

The Directors are prepared to receive TENDERS for the SUPPLY of the undermentioned STORES, viz. :—
No. of Contract.
1. Oils, turpentine, &c.
2. Iron axes, tyre forgings, &c.
3. General ironmongery, tools, &c.
4. Files, steel, springs, &c.
5. Sheet brass, brass and copper tubes, finished brass work, &c.
6. Tin, tin work, lead, zinc, and other metals.
7. Glass, lamps, lamp materials.
8. Varnish, paint, drysaltery, &c.
9. Ropes, canvas, bags, felt, &c.
10. Coach trimmings, carpeting, cloth, horse-hair, towelling, &c.
11. Leather, hose pipes, straps, &c.
12. Brushes, brooms, mats, &c.
13. Wood-work, &c.
14. Sundries.
Specifications and forms of tender may be had on application, in writing, to the storekeeper, London-bridge terminus.
Forms of tender for each contract are printed separately, and parties applying should state the particular contract for which they propose to tender.
Patterns may be inspected on and after the 12th inst., at the stores' office, Bricklayers' Arms station; and any further information required may be obtained at the storekeeper's office, London-bridge terminus.
Tenders to be returned on or before the 23d inst., endorsed "Tender for Stores," addressed to the secretary, London-bridge terminus.
S. SMILES, Sec.
London Bridge Terminus, March 11, 1861.

SOUTH-EASTERN RAILWAY—TO IRONMASTERS, MANUFACTURERS, AND OTHERS.—The Directors are PREPARED to RECEIVE TENDERS for the SUPPLY of RAILS, CHAIRS, JOINT PLATES, BOLTS &c., specifications of which may be had on application to the engineer or secretary, at the South-Eastern Railway Company's offices, London Bridge, on and after Monday, the 18th inst.
S. SMILES, Sec.
Secretary's Office, London Bridge, March 15, 1861.

TO COAL PROPRIETORS, BRICK MANUFACTURERS, AND OTHER CAPITALISTS.—TO BE LET, ON LEASE, the following VEINS OF MINERALS:—4 ft. vein of FIRE-CLAY, of excellent quality; 24 in. vein of peat, London-bridge terminus. Also, a vein of high quality STEAM COAL, or HOUSE COAL. A pit and an incline are open to the above, the whole of which will command a ready market at excellent prices. The whole of the above property adjoins the prosperous and beautiful seaport town of Swansea. For brick making, any quantity of the advertiser's land can be had, with an abundant supply of water at all seasons. The advertiser is of opinion that a considerable fortune can be realised. The only reason for his wishing to so arrange the workings are his present numerous engagements, and being of this opinion he would be happy (if desired) to retain an interest, good management only being necessary.—Applications from principals only, or their solicitors, to be made to DAVID DAVID, Esq., solicitor, Swansea.

STEAM ENGINE OF TWELVE HORSE POWER.—WANTED TO PURCHASE, a DOUBLE CYLINDER PORTABLE STEAM ENGINE (link motion preferred), with wood travelling wheels.—Price and full particulars to be addressed to Mr. CHESWELL, engineer, 92, Blackfriars-road.

GREAT MOELWYN SLATE COMPANY (LIMITED).—Notice is hereby given, that the FIRST ANNUAL MEETING of the shareholders in the above company will be HELD at the new offices, No. 42, Bridge-street, Blackfriars, London, on FRIDAY, the 22d day of March, 1861, at Two o'clock precisely.
By order, JAMES WRIGHT, Sec.
42, Bridge-street, Blackfriars, London, March 12, 1861.

WHEEL UNY MINE.—Notice is hereby given, that the next QUARTERLY MEETING of the adventurers will be HELD at this office, on WEDNESDAY, the 20th March next, at One o'clock precisely. The meeting has in this instance been deferred to obtain the return of the tin for the quarter, which the inclement weather had prevented.
R. H. PIKE, Purser.
7, Tokenhouse-yard, London, E.C., February 26, 1861.

CASTLEWARD UNITED MINING COMPANY (LIMITED).—Notice is hereby given, that, by a resolution of the directors, dated the 12th March inst., a CALL of FIVE SHILLINGS has been MADE ON EACH SHARE (liable thereto, the same to be paid into the Royal Bank, Finner-place, Dublin, or the Northern Bank, Dublin, on FRIDAY, the 23d day of April, 1861, at Two o'clock precisely, and the 9th day of April, 1861, on or before Tuesday, the 9th day of April, 1861, at Two o'clock precisely, per annum will be charged on all calls remaining unpaid after that date.
By order of the Board, S. CRAMPTON, Hon. Sec.
33, Upper Sackville-street, Dublin, March 13, 1861.

INARES LEAD MINING COMPANY.—Notice is hereby given, that, in conformity with the Deed of Settlement, the HALF-YEARLY GENERAL MEETING of the shareholders in this company will be HELD at the below-named offices, on THURSDAY, the 28th inst., at One o'clock, to receive the accounts and balance-sheet, with reports from the directors and auditors for the half-year ending 31st December, 1860; to elect three directors in the place of William Warne, John Taylor, jun., and Richard Taylor, Esqs., who go out of office by rotation, but who are eligible, and offer themselves for re-election; to appoint two auditors for the ensuing year (Thomas Coxhead and F. J. Bramwell, Esqs., are eligible, and again offer themselves for re-election); and for general business, as authorised by the Deed of Settlement.
Signed, J. B. COLOGAN, Sec.
5, Queen-street-place, Upper Thames-street, London, E.C., March 14, 1861.

THE FORTUNA COMPANY (LIMITED).—Notice is hereby given, that, in conformity with the Deed of Settlement, the YEARLY GENERAL MEETING of the shareholders in this company will be HELD at the below-named offices, on THURSDAY, the 28th inst., at Three o'clock p.m., to receive the accounts and balance-sheet, with reports from the directors, auditors, and superintendent for the year ending Dec. 31, 1860; to elect three directors, in the place of John Adair, Robert Henty, and William Loftus Lowndes, Esqs., who go out of office by rotation, but who are eligible and offer themselves for re-election; to appoint two auditors for the ensuing year (James Thomas Dorrington and James Crosby, Esqs., offer themselves for re-election); and for general business, as authorised by the Deed of Settlement.
Signed, J. B. COLOGAN, Sec.
5, Queen-street-place, Upper Thames-street, London, E.C., March 14, 1861.

CLARENDON CONSOLIDATED MINING COMPANY OF JAMAICA (LIMITED).—Notice is hereby given, that the directors have this day made a CALL of TWO SHILLINGS AND SIXPENCE PER SHARE on the shares of the company, PAYABLE on or before the 10th day of April next, at the bankers of the company, Messrs. Heywood, Kennards, and Co., No. 4, Lombard-street, London, and the shareholders are hereby required to pay the same accordingly.
The transfer books will be closed from 22d January to 1st February, both days inclusive.
By order, JOHN H. KOCH, Sec.
187, Gresham-house, Old Broad-street, London, January 22, 1861.

ST. JOHN'S UNITED COPPER AND LEAD MINING COMPANY (LIMITED), NEWFOUNDLAND.—Upon the motion made that the report of the directors at the general meeting, held on the 7th March, should be adopted, and upon which an amendment was moved to wind-up the company by Mr. Hughes, the polling took place at the office this day, between the hours of Twelve and Two o'clock.
The votes were, for adopting the report 104
For Mr. Hughes's amendment 1001
Majority 1001
134 votes were tendered for the amendment, but were refused, from the proxies not being made in the proper form.—18, Cannon-street, London, E.C., March 14, 1861.

THE TORBANE HILL MINERAL.—It is a disgrace to Science that any doubt should ever have been thrown by any scientific man upon the nature of this substance, now so well known everywhere throughout the civilised globe as the Torbane Hill Mineral, with the alias, when under disgrace, of Boghead Gas Coal. Nine-tenths, or even a larger majority, of all scientific men, led by those who are at the head of their departments of the various physical sciences, are now quite as one on the subject. The States of the Zollverein and the Prussian Government decided years ago that the substance in question is not coal, and so not liable to Customs' duty. And lately the French authorities also have pronounced the substance to be bituminous schist (bitume solide ou pierre de schiste), and therefore able to pass into France free of the duty leviable upon coal. That the base of this mineral is purely a clay, and not, as happens in the case of all coals, preponderating fixed carbon—charcoal or cinder, is a fact now as well known everywhere as any physical fact of the kind can be. It is, moreover, well known that the mineral substance in question gives 75 per cent. of a valuable tar or oil, capable, by easy purifying and rectifying processes, of yielding a highly valuable, because most economical, illuminating oil, as well as thicker oil, useful for all sorts of lubricating purposes, solid paraffine, and other important products. That on a clay base equal to one-fourth in weight of the substance, there should be superinduced the enormous proportion of three-fourths, or 75 per cent. of oil—usually called, as it is, paraffine oil—is one of the wonderful facts relating to a mineral which is surrounded by an atmosphere of wonders. The Torbane Hill Mineral, in fine, is one of the most astonishing discoveries of the day, in an age of physical discoveries. It must be exceedingly gratifying, therefore, to all the patrons of physical science, and indeed to all lovers of truth, that an opportunity is about to be afforded for the fullest discussion, by the scientific men of all countries in Christendom, on the nature and peculiar qualities of this celebrated substance. If the physical sciences singly—if all the physical sciences united—be not adequate to tell whether this thing be coal, or oil-clay, what are the physical sciences worth? In fine, the mineral has had much *celebrity* already, and is likely to have still a great deal more celebrity, higher and better. Its fame will be world-wide. The opportunity alluded to will be afforded by an action which Mr. and Mrs. Gillespie, of Torbane Hill, have instituted against Messrs. Young, Binney, and Meldrum, of the Chemical Works, near Bathgate, and in the immediate vicinity of Torbane Hill itself. It is now necessary to detail, on the present occasion, many particulars regarding the nature and operation of the law action in question; it may suffice to state that, whereas Mr. and Mrs. Gillespie have been injured, and are in course of being injured, to a vast extent, by that chemical company's operations, in lowering and keeping down the price of the Torbane Hill Mineral in the market, by their alleged patent, Mr. and Mrs. Gillespie conclude against that company on this ground (among other grounds), that whatever patent, good or bad, they may have applicable to coal, it cannot, with any propriety, or without violation of truth, be held to be applicable to the Torbane Hill Mineral, which is not coal at all, but is, in truth, a new mineral, it being indeed "a new mineral substance, having an argillaceous base, and of so peculiar a nature as to constitute it a new and very peculiar variety of bituminous schist, shale, or clay," and generally called the Torbane Hill Mineral. The scientific world will learn with pleasure the information that so satisfactory an investigation is to be afforded.

All scientific gentlemen, whether chemists, microscopists, mineralogists, or geologists, as well as all practical men, engaged in any occupation which requires, or may permit, for any purpose, the use of the Torbane Hill Mineral—in whatever country of Europe or part of North America—who feel disposed to bear testimony to the truth concerning this substance, by declaring their reasons for holding it not to be coal, are requested to send their names, without delay, to Mr. GILLESPIE, of Torbane Hill, Scotland (office, 7, North-street, David-street, Edinburgh), or to any of his agents in England or Scotland, viz. :—
Messrs. CONNELL and HOPE, 3, Princes-street, Westminster.
Messrs. SUTTON and TRAILL, Solicitors, Westminster.
Messrs. D. M. and H. BLACK, W.S., Edinburgh.
Messrs. MORTON, WHITEHEAD, and GREGG, W.S., Edinburgh.
Messrs. MACNAUGHTON and FINLAY, W.S., Edinburgh.
Messrs. MITCHELL, ALLEN, and MITCHELL, Writers, Glasgow.

THE FESTINOG SLATE QUARRY COMPANY (LIMITED).

The Directors of this company are prepared to receive TENDERS for the CONSTRUCTION of a LINE of RAILWAY, of about 3½ miles in length, from a junction with the Festinog Railway Company, at Duffws, in the parish of Festinog, North Wales, to the company's estate at Tiliwch.

Printed forms of specification, deed of contract, and tenders may be had on application to the secretary of the company, at the offices, as below.

The plans and drawings can be seen on and after the 20th inst., on application at the offices of the company, Carlton-buildings, Cooper-street, Manchester; or at the office of C. E. SPOONER, Esq., the engineer, Portmadoc, North Wales.

Tenders must be made by properly filling-up and signing the printed form of tender supplied by the company, and returning it, with its accompanying forms of specification and deed of contract, to the undersigned, and no tender in any other form will be received.

The line is divided into six sections in the specification; and the directors do not prohibit, although they do not encourage, tenders for the construction of one or more sections only. A form of tender for this purpose will be found with the other forms.

The acceptance of any tender will, to some extent, be influenced by the shortness of the period within which the work is offered to be completed. A bond must be given by the contractor and two sureties for a penal sum of £2000 in the whole, for the due performance of the contract for the whole line; and a proportionate security must be given for the execution of any separate section of the line.

Tenders must be sent in to the undersigned on or before the 9th day of April next.

The directors do not bind themselves to accept the lowest, or any tender.

By order, HENRY WHITWORTH, Secretary.

Carlton-buildings, Cooper-street, Manchester, March 14, 1861.

THE FESTINOG SLATE QUARRY COMPANY (LIMITED).

The Directors of this company are prepared to receive TENDERS for SUPPLYING, FITTING-UP, AND FIXING, COMPLETE, AND READY FOR WORK, upon the company's intended line of railway, near Festinog, North Wales, within twelve months from the 1st of May, 1861, the DRUM and WATER-BALANCE MACHINERY AND WIRE ROPES FOR THREE SELF-ACTING AND ONE WATER-BALANCE INCLINES.

Printed forms of specification, deed of contract, and tender may be had on application to the undersigned. The plans and drawings can be seen on and after the 30th inst., at the office of the company, Carlton-buildings, Cooper-street, Manchester; or at the office of C. E. SPOONER, Esq., the engineer, Portmadoc, North Wales.

Tenders must be made by properly filling-up and signing the printed form of tender supplied by the company, and returning it, with its accompanying forms of specification and deed of contract, to the undersigned, and no tender in any other form will be received.

Tenders must be sent in to the undersigned on or before the 9th day of April next.

The directors do not bind themselves to accept the lowest, or any tender.

By order, HENRY WHITWORTH, Secretary.

Carlton-buildings, Cooper-street, Manchester, March 14, 1861.

RESPRYN COPPER MINING COMPANY (LIMITED).

PARISHES OF ST. WINWON AND LANHYDROCK, CORNWALL.

Capital £25,000, in 25,000 shares of £1 each.

10s. thereof to be paid on application for shares, and 10s. on the issue of the certificates of shares.

The directors have succeeded in making such alterations in the terms with the vendors of the mine, that a saving to the company of £4000 is now effected, and they have consequently determined not to issue more than 20,000 shares, without the consent of the shareholders specially summoned.

Pending the constitution of the share list, the directors, on their personal responsibility, have purchased the engine (72-inch cylinder) at the Wheal Messer Mine, which is admirably suited to the requirements of Respryn, and has been obtained on very advantageous terms.

The superintendents state that as soon as the water is drawn to below the 10 fathom level he will make returns of ore, and tributors have offered to take pitches as soon as they are enabled to work at that point.

Prospectuses and every information may be obtained on application at the offices, or from the brokers, Messrs. WEBB and GRAHAM, 8, Finch-lane; and Stock Exchange, London.

W. W. MANSELL, Manager.

RESPRYN COPPER MINING COMPANY (LIMITED).

REGISTERED OFFICES, 3, CANNON STREET, LONDON, E.C.

TENDERS WILL BE RECEIVED at these offices until Saturday, the 30th inst., for the REMOVAL of the ENGINE, BOILERS, SHEARS, &c., at the Wheal Messer Mine, near Bodmin, and the ERECTION of the same, with suitable house, &c., at the Respryn Mine, which is situated close to the Bodmin-road Railway station, county of Cornwall.

W. W. MANSELL, Manager.

THE SOUTH DARREN MINING COMPANY (LIMITED).

In 6000 shares of £3 10s. each, £2 5s. paid.

This mine is situated in the well-known rich mineral district of Cardiganshire, and adjoins East Darren and Cwn Eirfa, two dividend-paying mines. Others in the immediate neighbourhood have also yielded large profits.

The shaft is sunk 70 fms., and a large quantity of silver-lead ore has been raised from the upper levels. At the 60 fm. level the run of ore ground passed through is upwards of 80 fms. in length. The 70 is driven east and west altogether about 70 fms., and the lode is found there better in character and production than in the 60.

There are parallel lodes north and south, to which cross-cuts are being driven, and they cannot now be far from intersecting them. The lode to the north is considered to be the East Darren one, and the lode to the south has been opened on at surface, and has a most promising appearance. These cross-cuts have every prospect of soon leading to discoveries that will greatly enhance the value of the property.

Upwards of £6000 was given for the mine, and in the last four years about £6000 of capital has been expended, and about 500 tons of silver-lead ore have been sold for £10,000, or an average of £20 per ton, besides about £300 worth of copper ore. A new 50-foot pumping-wheel, and a second crusher, have been erected, and the whole plant and machinery have been thoroughly repaired, and are now in excellent order and condition.

The mine is now being worked with more spirit, and is, therefore, likely to be brought into a paying state all the sooner. Already two of the new points lately begun have improved, being worth respectively 8 cwt. of rich silver-lead ore per fm., and likely to be still better. The 70 east is also worth ½ ton per fm., and the different stops in the back of this level average ½ ton per fathom. Preparations are being made to sink to an 80 fm. level. There are ten men working on a tribute of £12 per ton, including all cost (the ore being worth £20 per ton).

There are monthly sales of ore, which already meet a large proportion of the costs, and the former are almost certain to gradually increase till profits are made. The rich and profitable mines of the Cardiganshire district are well known, while two of them adjoin South Darren.

Application for a limited number of shares at £1 1s. per share (£2 5s. paid), may be made to Messrs. WEBB and GRAHAM, 8, Finch-lane, and the Stock Exchange, London, E.C., till the 26th instant inclusive.

Plans of the workings can also be obtained, from which it will be seen that a very large quantity of ore has been returned, and that it apparently only requires to open out ground fast enough to make a paying mine.

WEST WHEEL FRIENDSHIP COPPER MINING COMPANY (LIMITED).

INCORPORATED BY ACT 19 AND 20 VIC., CAP. 47, BY WHICH THE LIABILITY OF THE SHAREHOLDERS IS LIMITED TO THE ACTUAL AMOUNT OF THEIR SHARES.

Capital £15,000, in 9000 shares of £2 each.

Deposit, 5s. per share; 15s. on allotment; the remainder, if required, in calls of not more than 5s. per share, and at intervals of not less than three months.

MANAGER—PONSONBY ARTHUR MOORE, Esq., J.P., Penze, Surrey, S.E. (Chairman).

JAMES BANKS, Esq., the Frendel, Thame, Oxon.

EDWARD B. FITTON, Esq., Keston, Bromley, Kent.

HENRY FENTON JADIS, Esq., Comptroller, Board of Trade, Whitehall.

JOSEPH LEWIS FRANKLIN, Esq., 16, Albemarle-street, Piccadilly.

BANKERS—The City Bank, Threadneedle-street, E.C.

BROKER—Joseph James Reynolds, Esq., 7, Bank Chambers, Lothbury.

SOLICITOR—J. Peddell, Esq., 82, Chancery.

CONSULTING ENGINEER—Josiah H. Hitchens, Esq.

SECRETARY—H. Dendy, Esq.

TEMPORARY OFFICES.

3, CROWN CHAMBERS, CROWN COURT, THREADNEEDLE STREET, E.C.

This valuable mine is situated in the parish of Breton, in the county of Devon, and almost adjoining the celebrated Wheal Friendship Mine, which has paid upwards of £300,000 in dividends, and still continues to be a most profitable investment.

It will be seen from the reports of Mr. Josiah Hitchens, consulting mining engineer to the Devon Great Consols, and of Capt. James Richards, manager to the Devon Great Consols, that the lodes in this mine are not only of unusual width, but in their geological construction exactly similar to those of Wheal Friendship.

Notwithstanding the encouraging prospects which the extent of ground laid open had offered to the former adventurers, the working of this mine was abandoned five or six years ago, solely because the amount of subscribed capital was exhausted.

The principal feature of the sett, as at present explored, consists of three lodes, referred to in the reports as the main north lode, the middle lode, and the great south gossan lode; and from their quick underlie, the junction of these two latter with the main lode may be expected at not much greater depth than the present engine-shaft, in the sinking of which a large sum of money has been expended by the former adventurers.

It is proposed to erect immediately a steam-engine of 40 or 50-hp. cylinder, to continue sinking the engine-shaft to the junction of the lodes, and by cross-cuts at the present depth of the engine-shaft to intersect the three lodes, which operations have been considered indispensable for the development of the resources of the mine.

The properties and general characteristics of the lodes at the 33 and 43 fm. levels improved to such an extent, that when the junction of the three lodes just mentioned is reached, which can be done in about six months from the time of the erection of the engine, very productive returns may be confidently expected, although it is fully believed that at the 53 (the present depth of the engine-shaft) the lodes will prove remunerative.

The plant comprises on surface a 40-ft. water-wheel, available for stamping and dressing the ore, pumps, water-courses, carpenter's shop, smithy, office, &c.

The mine is held on a lease for 21 years, at a royalty of one-fifth of the net proceeds, and the directors have provisionally arranged for the purchase of the property, including plant, &c., for the sum of £6000, to be paid on the following advantageous terms, viz.:—two-thirds to be taken in the shares of the company fully paid up, but taking dividends *pro rata* with the ordinary shares (thus showing the favourable opinion entertained by the vendors of the value of the mine), and one-third in cash, none of which will be paid until a sum has been obtained and set apart sufficient for working the mine during the first eight months.

The directors earnestly invite a careful perusal of Mr. Josiah Hitchens's report, as also that of Capt. James Richards, in which they will find embodied all the advantages possessed by this really valuable property. The directors have several other reports from mining men, as also the reports of the meetings of the former adventurers. These can be seen on application to the secretary at the company's offices, together with specimens of the gossan and the ore at the 43 fm. level.

The company being incorporated under the Joint-Stock Companies Act, with limited liability, no shareholder can be liable for any amount beyond the shares for which he has subscribed.

If no allotment is made the deposits will be returned in full.

Applications for shares may be made to, and prospectuses with reports upon the mine can be obtained from, the brokers or secretary, but no application will be considered unless the deposit of 5s. on each share applied for has been previously paid to the bankers, or through the office of the company.

WEST ROSEWARNE MINE AND MATERIALS.

MESSRS. WARE AND SON, of Exeter, WILL SELL, BY AUCTION, in One Lot, at WEST ROSEWARNE MINE, in the parish of Gwincar and county of Cornwall, on Tuesday, the 19th March next, by Three o'clock in the afternoon, the following VALUABLE MINE ENGINE and other MATERIALS, consisting of one 50 in. cylinder ENGIN, 10 ft. stroke in the cylinder and 8 ft. stroke in the shaft, with boiler 36 ft. long and 6 ft. diameter, and tubes in the same 3 ft. 8 in. diameter.

Capstan shears and rope, 120 fms. long by 10 in. round; 3 horse whips, shaft tackle, ropes and kibbles.

35 9 ft. 11 in. pumps, clack doorpieces, &c., to match.
6 9 ft. 10 in. pumps, clack doorpieces, plunger pole, &c.
14 9 ft. and 2 5 ft. 8 in. pumps, clack doorpieces, and pole.
40 fms. of 1½ in. iron bucket rods.
50 fms. of shaft casing, and 50 fms. of iron stave ladders.
45 fms. of 12 in. and 25 fms. of 11 in. wood rods, plates, bolts, &c.
Smith's bellows, anvils, smiths and miners' tools, &c., together with a large quantity of other articles, and the account-house furniture.

To view the same, apply to the captain on the mine; and for further particulars to J. H. MUNCHING, Esq., 117, Bishopsgate-street Within; or to Capt. W. RICHARDS, Bank House, Redruth.—March 5, 1861.

TO BRASS AND IRONFOUNDERS, COAL PROPRIETORS, BROKERS, AND OTHERS.

IMPORTANT SALE OF WINDING AND PUMPING ENGINES, BOILERS, RAILWAY WAGONS, BRASS WORKING BARRELS, PUMP TREES, WEIGHING MACHINES, AND OTHER EFFECTS, at the ROYAL COLLIERY, ECCLESTON, ST. HELENS, LANCASHIRE.

ROBERT BUTLER respectfully announces that he has received instructions from Messrs. Bromilow and Co., of the Royal Colliery, Eccleston, St. Helens, to SELL BY AUCTION, on Monday, the 1st day of April, 1861, at Eleven o'clock in the forenoon, all the VALUABLE MACHINERY and COLLIERY PLANT now on the above premises, comprising one 45 horse HIGH PRESSURE HORIZONTAL WINDING ENGINE, with 22 in. cylinder and 4 ft. 8 in. stroke, Wilson's patent valve, brass rising valve and box, with Dent's patent steam gauge, fly-wheel, 15 ft. diameter, with wrought shaft (all nearly new), manufactured by Messrs. Robinson and Cook, Atlas Foundry, St. Helens. One 16 horse HIGH PRESSURE DONKEY ENGINE, with 14 in. cylinder, 2 ft. stroke and slide valve, fly-wheel 10 ft. diameter, and wrought-iron shaft, ram feed pump, with cast-iron water heater, steam and exhaust pipes, capstan drum, two spur wheels 4 ft. 6 in. diameter, and 2 spur pinions, pedestals and brass steps. One 60 horse HIGH PRESSURE PUMPING ENGINE, with 28 in. cylinder, 6 ft. stroke, fly-wheel 16 ft. diameter, with wrought-iron shaft, with two eccentrics, and 6 in. feed pump and spur wheels 16 ft. and 8 ft. diameter, wrought-iron shaft, wrought-iron connecting rods, and four 1 leg, manufactured by the High Foundry Company, Wigan. One 20 horse CONDENSING BEAM ENGINE, 21 in. cylinder, 4 ft. 6 in. stroke, foundation plate and four centre columns, fly-wheel 18 ft. diameter, two spur wheels 5 ft. diameter, one 4 ft. diameter, shafting, verticals, steam pressure gauges, &c., complete. One 4 horse power RIDDLE ENGINE, 4 in. cylinder, 10 in. stroke. One small 2 horse ENGINE, &c., with hay-cutting machine. Two wrought-iron egg-ended BOILERS, 18 ft. long, 6 ft. 6 in. diameter, with feed boxes, valves, pipes, steam gauges, furnace frames, doors and fire-bricks; one 16 ft. long, 4 ft. 6 in. diameter, one ditto 16 ft. long, 6 ft. diameter, each fitted with feed boxes, valves and pipes, steam gauges, safety valves, steam gauges, furnace doors and fire-bricks. One wrought-iron steamer, for basket rods, about 270 yards of 9, 10, and 12 in. pump trees, with bucket and clack pieces, 100 ditto of various sizes. FIFTY RAILWAY COAL WAGONS, to carry from 4 to 5 tons. One 14 tons weighing machine, made by Pooley, one 6 tons ditto by Kitchen, 1000 yards of chains, from ½ in. to 1 in., a large quantity of wrought and cast-iron scrap, 4000 yards of bridge pit rails, about 6 tons of knock-off joints and wing plates, three small wrought-iron boilers, cast-iron fly-wheel 8 ft. diameter, with wrought-iron arms, 2 wrought carriers, with chains and pulleys, a quantity of wrought-iron wheels, with wrought-iron axles, 300 wrought-iron tubes, two of Walker's patent riddles, 50 bottom wagons, 3 large smiths' anvils, swage blocks, tongues, hammers, two large bench vises, taps and dies, three pairs of smithy bellows, two sugar loaf irons, from 3 to 4 tons rod bolts, a large quantity of pit board pieces, cast-iron smithy hobs, 3 brass working barrels, one 10 in. diameter and 9 ft. long, one ditto 7 in. diameter and 7 ft. long, one ditto 13½ in. diameter and 7 ft. long, one pitch pine head gear frame, two winding pulleys, 8 ft. 6 in. in diameter, wrought-iron shaft, pedestals, and brass steps, two capstan pulleys, three pitch pine head gear frames, and winding pulleys, 3 ft. diameter, a quantity of pitch pine regulations, with 14 in. pulleys, 1000 yards of hemp winding rope, 170 yards of flat hemp winding rope, 200 yards of pitch pine pump rods, 12 in. square, 150 ditto 6 in. square, 200 yds. of pitch pine pump rods, 4 in. square, a large quantity of 1½ in. deal boards, a large quantity of old timber, a quantity of oak horse trees, wren benches, a pitch pine cistern, 5 ft. 6 in. by 4 ft. 5 in. deep, a capstan shaft and beam, wheelbarrows, jigger wheels, a quantity of old wire roping, stack of prime hay, several cart horses and pony, gears, &c.

The above property is being disposed of in consequence of the workings being finished. Catalogues may be had at the office of the auctioneer, Bridge-street, St. Helens, one week previous to the day of sale. The Royal Colliery is situated two miles from the St. Helens Railway station. There is also a railway in connection with the above colliery.

SOUTH AUSTRALIA.

BLOCK OF TWENTY THOUSAND ACRES OF FREEHOLD LAND, and an EIGHTY ACRE SECTION, situated within seven miles of the River Murray, and only 36 from Adelaide.

MESSRS. V. J. COLLIER AND A. THOMAS WILL SELL, BY AUCTION, at the Mart, near the Bank of England, London, on Tuesday, July 23, 1861, by order of the directors of the Australian Mining Company, the TUNG KILLO ESTATE, a special survey of 20,000 acres of land, formerly called Reedy Creek, the hilly portions of which are admirably suited to the growth of the vine and other choice European fruits, while the table land and valleys generally afford excellent pasturage, and a considerable part of the surface is applicable to the growth of all kinds of grain. The property abounds in limestone, freestone, and brick earth, and the numerous springs of water on it might be advantageously applied to driving machinery, and for purposes of irrigation.

The estate is believed to contain great mineral wealth, including rich copper ore and auriferous quartz, as well as iron, emery, &c.; and although the mining operations of the company were not attended with profit, the existence of various and extensive mineral deposits of great promise was proved, and it only requires the energy of individual enterprise to develop these treasures. It is believed that no such tract of land in one block is now to be obtained in any of the Australian colonies within a reasonable distance of population, or in a settled district.

The situation of Tungkillo is pre-eminently favourable, from its proximity to the Capital and the River Murray (the Mississippi of Australia), now navigated by steamers for many hundreds of miles, and the north-eastern road from Adelaide to the river, 48 miles long, where about one-half has been formed and metalled by Government, at a cost of £90,000, will pass through the estate.

There are two houses and numerous useful buildings on the property, and included in the sale will be a detached section of 80 acres of freehold land.

The property is in the occupation of Messrs. A. B. Murray and Angus, and John Baker, Esq., till the 1st of Nov. next, when possession will be given, at rents amounting to £850 per annum.

Particulars, with plans, may be obtained of SAMUEL DAVENPORT, Esq., Adelaide (who will afford every information concerning the estate); of Messrs. HUGHES, KRAUSE, MANTON, and HUGHES, solicitors, 17, Bucklersbury, London, E.C.; at the Auction Mart; and of Messrs. V. J. COLLIER and A. THOMAS, 50, Moorgate-street, London, E.C.

The CHARLTON ESTATE, in SOUTH AUSTRALIA (590 acres), situated about 15 miles from Mount Remarkable, 30 from Port Augusta, and 120 from Adelaide.

MESSRS. V. J. COLLIER AND A. THOMAS WILL SELL, BY AUCTION, at the Mart, near the Bank of England, London, on Tuesday, July 23, 1861, at Twelve o'clock, by order of the directors of the Australian Mining Company, one of the most VALUABLE and COMPACT FREEHOLD FARMS in the colony, consisting of FIVE HUNDRED AND NINETY-SIX ACRES of PRODUCTIVE, and much of it VERY SUPERIOR LAND, a large proportion especially adapted for tillage, and the whole of fine grazing quality.

The situation is highly picturesque, and the surface, which is gently undulated and well watered, is handsomely timbered, but not in excess. About 60 acres, which are enclosed, are of surpassing richness, and a small portion is planted with vines and fruit trees, which thrive well.

There is an extensive house and other useful buildings on the estate, and the locality is well adapted for a township, owing to the excellence of its soil and water, and being on the main line of traffic from the South.

Rich copper ore has been raised from the land, and individual enterprise and perseverance would speedily develop the mineral wealth of the property.

The estate is let to Mr. C. B. Fisher, for a term expiring 1st November next, when possession will be given.

Particulars, with plans, may be obtained of SAMUEL DAVENPORT, Esq., Adelaide (who will afford every information concerning the estate); of Messrs. HUGHES, KRAUSE, MANTON, and HUGHES, solicitors, 17, Bucklersbury, London, E.C.; at the Auction Mart; and of Messrs. V. J. COLLIER and A. THOMAS, 50, Moorgate-street, London, E.C.

SALE OF THE MINES OF ALLEMONT, ISERE, FRANCE.

TO BE SOLD, BY PUBLIC AUCTION (by order of the President of the Tribunal Civil, Grenoble, dated the 7th of March, 1861, and registered the same day at Grenoble), on Saturday, the 1st of June, 1861, at Twelve o'clock, the MINES of the GRAND CLOS, with all that appertains to them, in the sale room of the Tribunal Civil, at the Palace of Justice, Grenoble, at the request of Mr. Victor Girond, syndic of the company known under the name of Nidodet and Cie, bankrupt. They will be sold in Two Lots. The first lot will comprise—

1.—THE BUILDINGS of the FOUNDRY, DWELLING HOUSES, stables, stores, &c., yard, garden, fields, meadows, &c., with all their dependencies, containing about 8 acres of land.

2.—A large building used as a dormitory and offices, at the Mines of Chalanches.

3.—A variety of implements, &c., valued at £280.

4.—About 24 tons of ores of nickel and cobalt; about 6 tons of mats of nickel and cobalt; and about 1400 cwts. of arsenical ores of antimony.

5.—THE CONCESSION of the MINES of CHALANCHES, commune d'Allemont, Isere, with all rights and titles belonging thereto, containing a superficial area of rather more than three miles.

The second lot will comprise—

1.—THE BUILDINGS and DRESSING-FLOORS of the LEAD MINE of the GRAND CLOS, commune de la Grave Hautes Alpes, with water-course, yards, gardens, and fields attached, containing about 2 acres of land.

2.—A variety of implements, &c., valued at £160.

3.—THE CONCESSION of the LEAD MINES of the GRAND CLOS, commune de la Grave Hautes Alpes, with all rights and titles belonging thereto, the said concession containing a superficial area of about two miles.

For further particulars, apply to Mmes. DOUARE AVONNE, 3, Rue du Palais; and to Mr. VICTOR GIROND, syndic of the bankruptcy Nidodet and Cie, 14, Rue Lafayette, Grenoble, Isere, France.

WARWICKSHIRE.

COAL AND IRONSTONE MINES.—TO BE LET, on royalty, upwards of SIXTY ACRES, with TWO ENGINES, &c. There is a canal and public wharf within a short distance, and there is every probability of a railway being made which will afford communications with London and Birmingham. To an enterprising and responsible party the proprietor would afford every liberal accommodation.

Apply to Messrs. RAWLINS and BOWLEY, solicitors, Birmingham.

Landed Estates Court, Ireland.

THE HON. JUDGE LONGFIELD, LL.D., one of the Judges of the Landed Estates Court, WILL, on Tuesday, the 15th day of April, 1861, at the Landed Estates Court, Four Courts, Dublin, SELL, in One Lot, the EXTENSIVE IRON MINES AND WORKS UPON AND UNDER TOWNLANDS OF TULLYNAMOLLY AND GOWLANE, situated in the barony of Dromahaire and county of Leitrim, and the several BUILDINGS, MACHINERY, FURNACES, and ENGINES connected therewith, known as the CREVELEA IRONWORKS, together with the several COAL FIELDS OR COLLIERIES UNDER the several TOWNS AND LANDS OF CORRY MOUNTAIN, MONEENATIEVE, an UNDIVIDED MOIETY OF ALTAQUIN, SELTONASKEAGH, and TULLYMURRY, all situate in the said barony of Dromahaire, and county of Leitrim, and under the town and lands of Tullynaha, otherwise Tullynahow, situate in the barony of Boyle and county of Roscommon.

The IRON MINES AND WORKS OF CREVELEA are held under an indenture of lease, bearing date the 24th day of June, 1853, for a term of 31 years, from the 29th September, 1851, subject to certain royalty rents therein specified, or a fixed rent of £500 a year in lieu thereof.

The several COAL FIELDS OR COLLIERIES are held under leases, bearing date respectively 9th April, 1853; 9th April, 1853; 30th August, 1853; 16th November, 1852; 19th March, 1853; and 14th September, 1853; all for terms of 31 years, with the exception of the lease of 16th November, 1852, and 9th April, 1853, of the Seltonaskeagh and Moneenatieve Collieries, which are for terms of 21 years only; and these coal fields are subject to certain royalty rents of 2d. per ton for coal (culm excepted), or fixed rents in lieu thereof, amounting in all to £139 13s. per annum. Immediate possession of all cases had.

RICHARD H. V. ARCHER, Chief Clerk.

Dated this 12th day of Feb., 1861.

GALLOWAY AND CONNOR, Solicitors.

DESCRIPTIVE PARTICULARS.

THE CREVELEA IRONWORKS are situated in the barony of Dromahaire, and county of Leitrim, distant three and a half miles from the town of Drumkeerin, where there is a comfortable hotel four miles from the navigable waters of Lough Allen (source of the River Shannon), from whence there is water carriage to the seaports of Dublin, Belfast, and Limerick, and six miles from the town of Dromahaire, from whence the River Bonnet is navigable to the seaport town of Sligo, distant but eight miles from Dromahaire. There is a post-office in the village of Crevelea, with daily deliveries from all parts of Ireland.

The works consist of a HOT BLAST MELTING FURNACE, nearly new, capable of complete repair, capable of producing 120 tons of pig-iron per week. A smaller HOT BLAST MELTING FURNACE, also nearly new and in perfect repair, capable of producing from 20 to 30 tons of pig-iron per week. TWO CALCINING KILNS, HIGH PRESSURE BLOWING ENGINE of 120 horse power, with engine house, &c., in complete repair, and capable of being worked at a speed of from 23 to 25 strokes per minute, without vibration; a block of coke ovens; a smithy in full working order, with tools, stores, sheds, manager's office and office staff, fixtures, desks, &c.; ten comfortable slated workmen's cottages, a weighbridge, with office attached, capable of weighing up to 3 tons, stabling for 30 horses, corn lofts and lock-up places, as also a large quantity of useful plant, consisting of jib crane, crab winch, pipes, bar iron, wagon wheels, fire-bricks, a set of boring tools, smiths' tools, and there is ample room for the erection of another large hot-blast furnace between the two above mentioned. The Court does not guarantee the title to the machinery or the quantity or quality thereof.

THE IRON FIELDS OF GOWLANE AND TULLYNAMOLLY consist of beds of clay-bound ironstone, averaging from 3 to 14 in. thick, and large quantities of ball ironstone of the richest quality, all worked by day level. The level worked upon Tullynamolly, of 5 ft. by 5 ft., gives a face, including balls, of 8 ft. of clean ore, producing for every 15 in. forward 1 ton ore. This level is one statute mile distant from the furnace, the greater part of which is laid with tramroad. There are also large beds of fire-clay, and an abundant supply of water. Coal also of a superior quality is believed to exist upon the lands. Peat is to be had in any quantity at a trifling cost, and the best limestone is to be had in abundance within three miles of the works. The lessees have expended over £35,000 in the erection and establishment of the foregoing buildings and machinery, which, with the exception of the workmen's cottages, the stabling, the weigh-house, and corn store, are built upon the townland of Gowlane, and will be conveyed, with the tenants' interest therein, to the purchaser. Those excepted premises are erected upon the townland of Tullynamolly, of which the petitioner has obtained a lease, at the nominal rent of £5 per annum, and he will execute a lease to the purchaser for the same term as may be unexpired of his lease at the time of the sale.

THE COAL FIELDS.

All lie in the barony of Dromahaire and county of Leitrim, with the exception of those on Tull

BEDFORD IRONWORKS, TAVISTOCK.

NICHOLLS, WILLIAMS, AND CO. have generally a GOOD STOCK OF SECOND-HAND MINING MATERIALS FOR SALE, including ironwork for a water-wheel, 40 ft. diameter, 2½ ft. breast. They also MANUFACTURE STEAM ENGINES of every description on the newest principle. Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts of the world. Steam boilers and chains warranted of the best description.

CONDIE'S PATENT STEAM HAMMERS.—FIRST-CLASS "MOVING CYLINDER" STEAM HAMMERS, from 5 cwt. to 7 tons, suitable for jobbing forges, puddling forges, and the smiths' shops of engineers, shipbuilders, &c. Pressure of steam required, 25 lbs. BAIN AND WYLIE (Successors to John Condie). Shields Ironworks, 330, Eglington-street, Glasgow.

IMPROVED APPLICATION OF WATER POWER.

THE TURBINE.—MAC ADAM BROTHERS AND CO., ENGINEERS, SOHO FOUNDRY, BELFAST, have been engaged for 13 years, with complete success, in MANUFACTURING their IMPROVED TURBINES, and can recommend them with confidence. This machine is applicable to all practicable heights of falls and quantities of water, giving a much higher percentage of power than any other description of water-wheel. On low falls it has the additional advantage of not being affected by flood or back-water, and it is particularly well adapted for all falls where the quantity of water is variable.

Further particulars on application; also references to turbines now at work on a great variety of falls.

PATENT BITUMINIZED GAS, WATER, AND DRAINAGE PIPES.—These PIPES POSSESS all the PROPERTIES NECESSARY for the CONVEYANCE OF GAS AND WATER, and also for DRAINAGE PURPOSES. GREAT STRENGTH, GREAT DURABILITY, and PERFECT INOXIDABILITY, and being non-conductors are not affected by frost, like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are only one-fourth the weight, and considerably cheaper than iron pipes. They are made in 7 ft. lengths, and the joints are simple and inexpensive. These pipes have been in use in France, Spain, and Italy nearly three years, where the demand for them is very great. The opinions of the press on a public test at the Houses of Parliament, before a large number of engineers and other scientific gentlemen, may be had, with further particulars, at the office of the company, on application to Mr. Alex. Young, 67, Mark-lane, London, where sample pipes may be obtained for trial.

PATENT LEVER BREAK, FOR RAILWAY WAGONS.—doing away with the objectionable break rack. Can be APPLIED TO EXISTING STOCK at a TRIFLING EXPENSE. Royalty moderate. Models can be seen at 34, Great George-street, Westminster; and the breaks in action at the works of the Railway Carriage Company; at the Peterboro' Station, on the Eastern Counties Railway; the Rugby Station, London and North-Western Railway; the Cardiff Docks Station, Taff Vale Railway; and at the Works, Oldbury, near Birmingham, where all communications are requested to be sent.

INCORPORATION OF STEAM BOILERS.—EASTON'S PATENT BOILER FLUID EFFECTUALLY REMOVES AND PREVENTS INCORPORATION IN STEAM BOILERS, WITHOUT INJURY TO THE METAL, with GREAT SAVING IN FUEL, and with LESS LIABILITY TO ACCIDENT FROM EXPLOSION. It is used by Her Majesty's Steam Storehouses, Woolwich Arsenal, Honourable Corporation of Trinity House, Tower of London, by the principal Steam Packet Companies of London, Liverpool, Southampton, Hull, &c., and by engineers and manufacturers throughout the country. Testimonials from eminent engineers, boiler makers, and manufacturers, with full particulars, will be forwarded on application to F. S. EASTON and G. SPRINGFIELD, sole manufacturers and patentees, Nos. 37, 38, and 39, Wapping-wall, London, E.

AGENTS:—Liverpool, Mr. J. McInnes; Hull, Messrs. A. H. Fleming and Co.; Southampton, Mr. J. Clark; Birmingham, Mr. Adam Dixon; Belfast, Mr. W. T. Matter, C.E.; Nottingham, Mr. G. D. Hughes; Glasgow, Mr. W. Mutrie;—Foreign: Rio de Janeiro, Messrs. Miera Brothers and Maylor; Odessa and South Russia, Mr. W. Baxter; Hamburg, Mr. August Müller.

Mr. Easton has rendered steam navigation a decided service. If his fluid only effects a part of what is said in his testimonials, then it is worth a trial by every steamship owner in the world.—*Mitchell's Steam Shipping Journal*, Dec. 28, 1859.

Messrs. Easton and Springfield have patented and are now manufacturing a fluid which, although it has been subjected to the severest tests, appears to give universal satisfaction.—*Mining Journal*, Dec. 22, 1860.

The most effectual, economical, and simple preventive of incrustation known.—*Commercial Daily List*.

BASTIER'S PATENT CHAIN PUMP.—APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, &c. J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, armers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by use:—

- 1.—It utilizes from 90 to 92 per cent. of the motive power.
 - 2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.
 - 3.—It occupies a very small space.
 - 4.—It raises water from any depth with the same facility and economy.
 - 5.—It raises with the water, and without the slightest injury to the apparatus sand, mud, wood, stone, and every object of a smaller diameter than its tube.
 - 6.—It is easily removed, and requires no cleaning or attention.
 - 7.—To be seen daily at W. P. Warner's, wine and spirit merchant, Welsh Harp, Edgware-road, near Cricklewood. References of the highest character will be given.
- J. U. BASTIER, sole manufacturer, will CONTRACT TO ERECT his PATENT PUMP at HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors and others, for the USE of his INVENTION.
- OFFICES, 19, MANCHESTER BUILDINGS, WESTMINSTER, LONDON. London, Oct. 10, 1859. Hours, from Ten till Four. J. U. BASTIER, C.E.

MR. J. U. BASTIER'S PATENT CHAIN PUMP.—The INAUGURATION of this PUMP will TAKE PLACE on THURSDAY, the 21st day of March inst., at Twelve o'clock at noon, at the WHEEL CONCORD, SOUTH SYDENHAM, near Tavistock, DEVONSHIRE. All persons interested in mines, shipping, or wherever pumps are employed, are invited to witness its performance.

ASSAY OFFICE AND LABORATORIES.—DUNNING'S ALLEY, BISHOPSGATE STREET WITHOUT, LONDON. Conducted by MITCHELL and RICKARD (late John Mitchell, F.C.S., Author of *Manual of Practical Assaying*, Metallurgical Papers, &c.) Assays and Analyses of every description performed as usual. Special Instruction in Assaying and Analysis. Consultations in every branch of Metallurgical and Manufactory Chemistry. Assistance rendered to intending Patentees, &c. For amount of fees, apply to the office, as above.

EBONITE!—TELEGRAPH INSULATORS made of EBONITE. EBONITE IN SHEET, TUBES, and RODS, or manufactured into various articles of utility and ornament, being calculated to supersede metal, hard woods, and ivory at present in use.

INDIA RUBBER.—INDIA RUBBER STEAM PACKING IN ROPE, SHEET, RINGS, &c., intended for railway and machinery appliances, unvulcanised and vulcanised.

S. W. SILVER AND CO., 3 and 4, BISHOPSGATE WITHIN, E.C. (Opposite the London Tavern).

WORKS—SILVERTOWN, ESSEX, opposite Her Majesty's Dockyards, Woolwich.

HALL AND WELLS, PATENTEES AND MANUFACTURERS OF SUBMARINE TELEGRAPH CABLES, CABLES, &c.—TELEGRAPH CONDUCTORS INSULATED WITH INDIA RUBBER at £5 per mile and upwards. CABLES WARRANTED TO STAND THE USUAL TEST FOR INSULATION. Further particulars as to price of cables, &c., can be had on application at 60, Aldermanbury, City, E.C.; and Steam Mills, Mansfield-street, Borough-road, Southwark, S.E.

Copper wire covered with silk, cotton, or any other material, to order.

SARL AND SONS, 17 and 18, CORNHILL, respectfully SOLICIT A VISIT to their magnificent ESTABLISHMENT. The ground floor is more particularly devoted to the display of FINE GOLD JEWELLERY, GOLD and SILVER WATCHES, and FINE GOLD CHAINS.

The SILVER PLATE DEPARTMENT is in the gallery of the building, and consists of every article requisite for the table and sideboard.

In the magnificent show-rooms is displayed a large and beautiful stock of ARGENTINE PLATE, the manufacture of which has stood the test of 20 years' experience.

SARL and Sons have also fitted up a separate show-room for the display of DRAWING and DINING ROOM CLOCKS of the most exquisite designs. Books containing drawings and prices may be had upon application.

SARL AND SONS, 17 and 18, CORNHILL, LONDON.

AUSTRALIA AND NEW ZEALAND WHITE STAR EX-ROYAL MAIL CLIPPERS.

LIVERPOOL TO MELBOURNE on the 1st and 20th of every month; FOR MELBOURNE.

Ship.	Captain.	Register.	Burthen.	To sail.
QUEEN OF THE MERSEY	ALLEN	1220	3750	March 25.
SHALIMAR	BROWN	1700	5000	April 20.
PRINCE OF THE SEAS	BROWN	1316	4000	May 20.
BLUE JACKET	WHITE	1559	4750	June 20.

Owing to the tides, the March packet will sail as above.

The clippers of this line are the largest, finest, and handsomest in the trade, and are well known for their famous passages, and the unswerving punctuality of their sailing engagements. Passengers must embark, without fail, on the day previous to advertised date.—For freight or passage apply to the owners, H. T. WILSON and CHAMBERS, 21, Water-street, Liverpool; or to GRUNDY and Co., 55, Parliament-street; or to SEYMOUR, PRACOCK, and Co., 116, Fenchurch-street, London.

Willcox's Australian and New Zealand hand-books sent for two stamps.

TO CAPITALISTS.—MESSRS. LEICESTER AND CO., INSPECTORS AND VALUERS OF MINES, &c., MELBOURNE, VICTORIA, OFFER their SERVICES TO SELECT AND INVEST CAPITAL IN MINING PROPERTIES, for which they charge 2½ per cent.; and they also COLLECT and TRANSMIT the DIVIDENDS, charging 2½ per cent. on their amount. Messrs. LEICESTER and Co. earnestly call the attention of capitalists to the many opportunities they possess of investing, to pay from £50 to £150 per cent. per annum. Sums under £50 will be charged extra. All remittances must be made through our agent, Mr. RICHARD MIDDLETON, *Mining Journal* office, 26, Fleet-street, London; or direct through our bankers, the Union Bank of Australia.

RAILWAY WAGONS.—WILLIAM A. ADAMS AND CO., MIDLAND WORKS, BIRMINGHAM. BROAD AND NARROW GAUGE COAL AND IRONSTONE WAGONS. IN STOCK—FOR SALE OR HIRE.

RAILWAY WAGONS.—JONATHAN KETLEY, SOHO CARRIAGE AND WAGON WORKS, NEAR BIRMINGHAM. ALL DESCRIPTIONS OF RAILWAY WAGONS FOR SALE OR HIRE. MANUFACTURER OF ALL KINDS OF RAILWAY IRONWORK.

THE RAILWAY CARRIAGE COMPANY, OLDBURY, NEAR BIRMINGHAM. MANUFACTURERS OF EVERY DESCRIPTION OF RAILWAY PLANT AND IRONWORK. NEW AND SECOND-HAND RAILWAY WAGONS ALWAYS IN STOCK FOR SALE OR HIRE. LONDON OFFICE, 34, GREAT GEORGE STREET, WESTMINSTER.

THE BIRMINGHAM WAGON COMPANY (LIMITED) HAS RAILWAY WAGONS FOR HIRE. Apply to the SECRETARY, 3, Newhall-street, Birmingham.

PERMANENT WAY RAILS for sidings, &c., COLLIERY RAILS, CONTRACTORS' RAILS, EARTH WAGONS, and CONTRACTORS' MATERIALS FOR SALE, by ROBERT WRIGHTSON, Newport, Monmouthshire.

JAMES RUSSELL AND SONS, CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. The Original Inventors and First Manufacturers of the Patent Wrought-Iron Tubes for Gas, Steam, Water, &c. Enamelled Tubing, and Glazed ditto. Russell and Howell's Homogeneous Tubes. And agents for G. F. Muntz's Solid Brass Tubes. Every variety of fittings. Trade mark, .

LOYD AND LLOYD, ALBION TUBE WORKS, BIRMINGHAM. MANUFACTURERS OF PATENT LAP-WELDED IRON TUBES, FOR LOCOMOTIVE, MARINE, AND STATIONARY BOILERS. IMPROVED HOMOGENEOUS METAL TUBES. ALL DESCRIPTIONS OF TUBES AND FITTINGS FOR GAS, STEAM AND WATER, PLAIN, GALVANISED AND ENAMELLED. GUN-METAL STEAM GLAND COCKS, WATER GAUGES, &c.

SHORTBRIDGE, HOWELL, AND CO., HARTFORD STEEL WORKS, SHEFFIELD, SOLE MANUFACTURERS OF HOWELL'S PATENT HOMOGENEOUS METAL PLATES FOR BOILERS, LOCOMOTIVE FIRE BOXES, and TUBES, COMBINING THE STRENGTH OF STEEL WITH THE MALLEABILITY OF COPPER. RUSSELL AND HOWELL'S PATENT CAST STEEL TUBES. MCCONNELL'S PATENT HOLLOW RAILWAY AXLES.—For prices and terms, apply to SHORTBRIDGE, HOWELL, and Co., Hartford Steel Works, Sheffield; or Messrs. HARVEY and Co., 12, Haymarket, London.

ROBERT MUSHET'S CAST STEEL.—The BEST and therefore the CHEAPEST in the market. ESPECIALLY SUITED FOR MINING PURPOSES. See testimonials at foot:—*Gloucester*, Dec. 31, 1859.—GENTLEMEN: I have found the cast-steel bars very hard to groove, and had it not been for the excellent tool steel you sent me I must have given up the work in despair. Yours truly, WILLIAM HARRIS. Robert Mushet and Co., Forest Steel Works, Coleford.

Dos Works, Newport, Monmouthshire, Feb. 4, 1860.—GENTLEMEN: In reply to your enquiries of yesterday, your cast-steel sledges have worn uncommonly well, and are all that can be desired. Your obedient servants, J. J. CORDER and Co. Robert Mushet and Co., Coleford.

Hematite Iron Ore Mines, Whitehaven, April 2, 1860.—GENTLEMEN: Having now used your cast-steel for jumpers in my mines for more than 12 months past, I am happy to inform you that I find it very superior to any other steel we have used for mining purposes. Your obedient servant, A. HODGETTS, Manager. (for J. W. Smith.) R. Mushet and Co., Forest Steel Works, Coleford.

For terms, &c., apply to ROBERT MUSHET and Co., Forest Steel Works, near Coleford, Gloucestershire.

FARRAR'S PATENT STEEL COMPANY, WARDSEID STEEL WORKS, SHEFFIELD, MANUFACTURERS OF BEST CAST STEEL, MALLEABLE AND MILD STEEL CASTINGS, SUPERIOR CAST-STEEL FILES, &c., CALL THE ATTENTION OF ENGINEERS and all users of FIRST-CLASS STEEL to the GREAT SUPERIORITY OF STEEL MANUFACTURED under this PATENT. Prices:—First quality.....£50 per ton. Second quality.....40 " Third quality.....30 "

LONDON OFFICE, 21, BOW LANE, CANNON STREET WEST, E.C. Where all communications are to be addressed.

BRITISH CHARCOAL PIG IRON. GOLD BLAST HEMATITE PIG IRON. URAL IRONWORKS, No. 626, GARSJUBE ROAD, GLASGOW.

TO COLLIERY PROPRIETORS.—PATENT TIPPING MACHINES, TO DIMINISH THE LOSS FROM BREAKAGE IN LOADING COAL ON RAILWAY WAGONS, SHIPS, &c. ARTHUR AND JAMES RIGG, PATENTEES AND MAKERS, GEORGE STREET, CHESTER.

VENTILATION OF MINES.—ELLIS LEVER INVITES the ATTENTION OF OWNERS, VIEWERS, AND MANAGERS OF COLLIERIES to his recently IMPROVED MATERIAL for BRATTICING AND MAKING TRAP DOORS, in the working of coal mines. It is made in every width, and in various quantities, prices of which may be had on application.

For the VENTILATION OF SHAFTS, and for CONVEYING AIR to the various UNDERGROUND WORKINGS OF MINES, ELLIS LEVER has contrived and introduced a VERY SERVICEABLE DESCRIPTION OF WATER-PROOF and AIR-PROOF TUBES, from 1 to 6 ft. diameter, and in unlimited lengths.

Further information may be had on application to the manufacturer, ELLIS LEVER, West Gorton Works, Manchester.

"THE RAILWAY AND THE MINE."—LEVER'S Illustrated Year-Book for 1861, price 2s. 6d., may be had in London of Simpkin, Marshall, and Co., and all booksellers throughout the kingdom.

GARNOCK, BIBBY, AND CO., MANUFACTURERS OF HEMP AND MANILLA CORDAGE, AND IMPROVED PATENT NON-TWISTED WIRE-ROPE, CHAPEL STREET, LIVERPOOL.

G. B. and Co. beg to intimate that they use nothing but Bradley's long-drawn charcoal wire in the manufacture of pit and incline ropes. The quality of this article is well-known, and its superiority was fully proved at a PUBLIC TEST OF WIRE ROPE, instituted by Messrs. R. Newall and Co., at Liverpool, on October 29th, 1860, on which occasion G. B. and Co.'s samples averaged 13 per cent. over their trade card, and were the strongest of all the samples from various manufacturers then tested. See *Mining Journal*, Oct. 29, 1860.

FRANCIS MORTON AND CO., LIVERPOOL, INVITE ATTENTION to the REDUCED PRICES of their best prepared, close laid, GALVANISED CABLE SIGNAL CORDS, for COLLIERIES, MINES, RAILWAYS, &c. Prices, delivered direct from their manufactory, Liverpool:—No. 0, for deep pits, 13s. 6d. per 100 yards. No. 0, for deep pits, 11s. 6d. per 100 yards. No. 1, for shallow pits, 10s. 6d. per 100 yards. GALVANISED SIDE PULLEYS, with brass wheels, for No. 0 signal cord, 6s. 3d. a dozen. No. 0 and 1 signal cord, 5s. 6d. a dozen. SIGNAL BELLS, extra strong, 30s. each. Ditto small size, 20s. IMPROVED DRY HAIR FELTS, for boilers, &c., in long lengths, 9½d. to 1s. 7d. a yard. ASPHALTED ROOFING FELT, 1d. a square foot.

FRANCIS MORTON AND CO., MANUFACTORY AND HEAD OFFICES.—LIVERPOOL. LONDON OFFICE, 19, PARLIAMENT STREET, WESTMINSTER.

DAVEY'S PATENT BLASTING POWDER, MANUFACTURED BY DAVEY, BROTHERS, AND CO., NANCEKUVE POWDER WORKS, TUCKINGMILL, CORNWALL. This blasting powder possesses the following advantages over every other in use:—Its COMBUSTION is SLOWER and MORE PERFECT when confined in the hole; PRODUCES LESS SMOKE, is LESS DANGEROUS, and it generally BURSTS more ROCK with a CHARGE OCCUPYING the SAME SPACE, and WEIGHING from TWENTY to THIRTY PER CENT. LESS than other powder, EFFECTING an IMPORTANT SAVING.

DAVEY, BROTHERS, and Co. beg to state that this powder is specially made for blasting, and from its slow combustion is not adapted for projectiles. They would, therefore, caution consumers against the efforts of interested parties to put it to a fallacious trial, by firing a ball from a mortar, which is no test of its explosive force when confined.

PATENT SAFETY FUSE.—The GREAT EXHIBITION PRIZE MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, DICKFORD, SMITH DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.

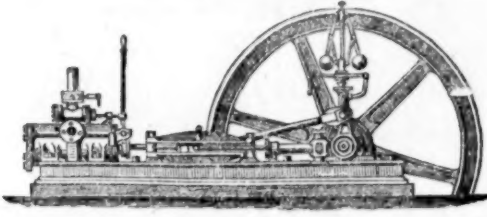
Address:—DICKFORD, SMITH, DAVEY, and PRYOR, Tuckingmill, Cornwall.

AYTOUN'S PATENT SAFETY CAGE FOR MINES.—An illustrated description of this cage appeared in the *Mining Journal* of the 9th March. The patentee would impress on the working miners that it depends upon themselves alone whether they are to have the security of safety cages or not. Employers are naturally unwilling to incur this responsibility, but will gladly accede to the expressed wishes of their workmen in a matter so materially affecting their safety. Let the latter, therefore, with the concurrence of their employers, call upon the different patentees to exhibit their safety cages before them, make choice of the one they have confidence in, and thus do away with a fruitful source of danger to the miner.

N.B.—If requested to do so, the patentee will send a safety cage, with its guide-rods and frame complete, to any mining district, at his own expense, for the purpose of its being tried and tested. He has no doubt that the other patentees will do the same.

Apply to the patentee, ROBERT AYTOUN, 5, Fettes-row, Edinburgh.

MESSRS. E. PAGE AND CO., VICTORIA WORKS, BEDFORD, AND LAURENCE POUNTNEY PLACE, CANNON STREET, LONDON. MANUFACTURERS OF



HIGH PRESSURE STEAM ENGINES, from 2½ to 30 horse power, and upwards, adapted for MILLS, AGRICULTURAL, MINING, and GENERAL PURPOSES. The following sizes are ready for immediate delivery, and may be seen at any time at their London depot:—

ONE 5 in. cylinder, 10 in. stroke.	ONE 12 in. cylinder, 36 in. stroke.
TWO 8 in. cylinder, 18 in. stroke.	ONE 14 in. cylinder, 36 in. stroke.
ONE 10 in. cylinder, 18 in. stroke.	ONE 17 in. cylinder, 36 in. stroke.
ONE 14 in. cylinder, 24 in. stroke.	TWO 20 in. cylinder, 36 in. stroke.

Prices and full particulars sent on application.

CLAYTON, SHUTTLEWORTH, AND CO., AGRICULTURAL AND GENERAL ENGINEERS, LINCOLN, and 79, LOMBARD STREET, LONDON.

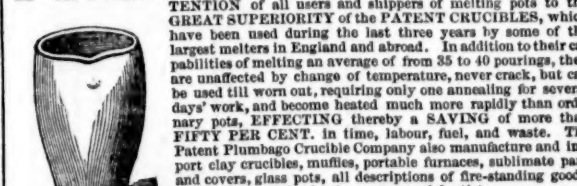


THOS. CRESSWELL, ENGINEER, SURREY IRONWORKS, BLACKFRIARS ROAD, LONDON. MANUFACTURER OF IMPROVED PORTABLE, TRACTION, AND STATIONARY ENGINES.



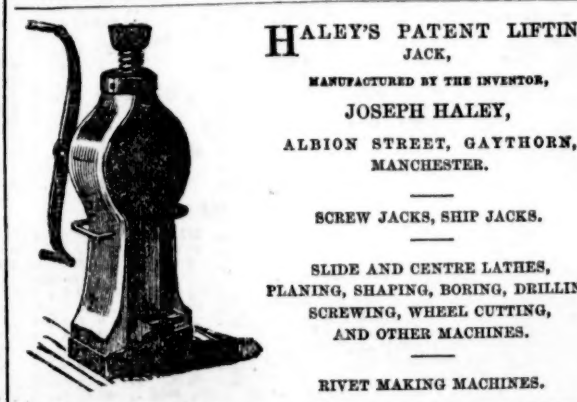
TRACTION ENGINE, LONGSTAFF AND PULLAN'S PATENT.

TO BRASSFOUNDERS, ENGINEERS, REFINERS, &c.—The PATENT PLUMBAGO CRUCIBLE COMPANY beg to CALL the ATTENTION of all users and shippers of melting pots to the GREAT SUPERIORITY OF THE PATENT CRUCIBLES, which have been used during the last three years by some of the largest melters in England and abroad. In addition to their capabilities of melting an average of from 35 to 40 pourings, they are unaffected by change of temperature, never crack, but can be used till worn out, requiring only one annealing for several days' work, and become heated much more rapidly than ordinary pots, EFFECTING thereby a SAVING of more than FIFTY PER CENT. in time, labour, fuel, and waste. The Patent Plumbago Crucible Company also manufacture and import clay crucibles, muffles, portable furnaces, sublimate pans and covers, glass pots, all descriptions of fire-standing goods, and every requisite for the assayer and dentist.



Also, sole proprietors of fine POWDERED PURE FLOUR PLUMBAGO, which they can confidently recommend for anti-friction purposes, being an impalpable powder, and warranted perfectly free from grit and any impurity. For ordinary polishing purposes it will be found superior to any of the black leads offered. Price, £27 10s. per ton; 30s. per cwt. Samples of 25 lbs. forwarded on receipt of 8s. Packages free.

For Lists, Testimonials, &c., apply to the BATTERSEA WORKS, London, S.W.



HALEY'S PATENT LIFTING JACK, MANUFACTURED BY THE INVENTOR, JOSEPH HALEY, ALBION STREET, GAYTHORN, MANCHESTER. SCREW JACKS, SHIP JACKS. SLIDE AND CENTRE LATHES, PLANING, SHAPING, BORING, DRILLING, SCREWING, WHEEL CUTTING, AND OTHER MACHINES. RIVET MAKING MACHINES.

WILSON'S BREECH-LOADING RIFLE.—MR. THOMAS WILSON begs to CALL ATTENTION to his new BREECH-LOADING RIFLES and CARBINES, which after repeated trials are pronounced by the highest authorities to be the most simple, safe, and efficient breech-loading weapons ever introduced. All enquiries and other communications to be addressed to Messrs. Rabone Brothers, and Co., 47, Broad-street, Birmingham, who have the management of the patent, and from whom every information as to cost and other details can be obtained. The patent rifles may be obtained through the London and Birmingham gun trades, and all respectable gun makers in the kingdom, as well as through Messrs. Rabone Brothers and Co., 47, Broad-street, Birmingham.

N.B.—All guns manufactured under this patent are viewed by the patentee, and I made correctly are marked T. W. under a small crown on the Nock's form of the barrel.

KEATING'S COD LIVER OIL.—Just imported, the Pale from Newfoundland, and the Light Brown from Norway. The supplies of the present season have never been surpassed, the fish being unusually fine, and the oil nearly tasteless. Professors Taylor and Thompson, of Guy's and St. Thomas's Hospitals, have analysed, and pronounced the Pale Newfoundland Oil the best and most desirable for use, of very delicate constitution. The Light Brown being more economical in price, is brought within the reach of all classes. No higher price need be paid than the following:—Light Brown, 1s. 8d. per pint, or 3s. per quart. Pale, 1s. 6d. half-pint, 2s. 6d. pints, 4s. 6d. quarts, or in five-pint bottles 10s. 6d., imperial measure, at 79, St. Paul's Church-yard, London.

A BOON TO NERVOUS SUFFERERS. TWENTY THOUSAND COPIES OF A MEDICAL BOOK for gratuitous circulation. HENRY SMITH, Doctor of Medicine of the Royal University of Jena, &c., who has devoted 15 years to the study and Treatment of Nervous Debility, Loss of Memory, and Indigestion, will send free, for the benefit of Nervous Sufferers, a copy of the NEW MEDICAL GUIDE, containing his highly successful mode of treatment, with necessary instructions by which sufferers may obtain a cure. Post on receipt of a stamped directed envelope, from the author's residence, 3, Bedford-crescent, Tavistock-square, London, W.C.

THE MINING SHARE LIST.

DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
4000	Bedford United (copper), Tavistock	2 0 0	2 0 0	5% 6%	11 19 0	2 6 Dec. 1860
240	Boscan (tin), St. Just	20 10 0	20 10 0	5%	30 10 0	1 10 Feb. 1861
200	Botalack (tin), St. Just	21 0 0	21 0 0	5%	44 3 0	2 10 Feb. 1860
2000	Brinsford (lead), Cardiganshire	4 0 0	4 0 0	7%	0 4 0	2 0 Jan. 1861
200	Brynford Hall (lead), Flintshire	13 10 0	13 10 0	5%	14 0 0	2 10 Oct. 1860
1000	Carn Brea (copper), Illogan	15 0 0	15 0 0	5%	269 10 0	2 0 Feb. 1861
2000	Carnvorth (copper), Illogan	15 0 0	15 0 0	5%	0 19 0	2 0 Feb. 1860
2000	Comorose (copper), Illogan	15 0 0	15 0 0	5%	0 9 0	2 0 July 1860
2000	Copper Mines of England	25 0 0	25 0 0	5%	7 1/2 per cent.	Half-yearly
350000	Ditto	100 0 0	100 0 0	5%	1 per cent.	Half-yearly
1055	Craddock Moor (copper), St. Cleer	8 0 0	8 0 0	7%	4 19 0	4 0 Jan. 1861
1055	Cwm Erwin (lead), Cardiganshire	7 10 0	7 10 0	5%	3 13 0	0 15 Jan. 1861
128	Cwmystwith (lead), Cardiganshire	6 0 0	6 0 0	5%	222 10 0	5 0 Mar. 1861
200	Derwent Mines (sil.-lead), Durham	300 0 0	300 0 0	5%	137 0 0	10 0 June 1860
1024	Davon Gt. Con. (cop.), Tavistock	1 0 0	1 0 0	5%	739 0 0	7 0 Jan. 1861
258	Dolcoath (copper), Illogan	12 17 0	12 17 0	5%	610 10 0	2 0 Feb. 1861
512	East Basset (cop.), Redruth	29 10 0	29 10 0	5%	72 0 0	5 0 Feb. 1861
6144	East Caradon (copper), St. Cleer	2 14 6	2 14 6	5%	0 7 0	5 0 Mar. 1861
300	East Darnley (lead), Cardiganshire	62 0 0	62 0 0	5%	74 10 0	1 0 Jan. 1861
2048	East Wheel Lovell (tin), Wendron	2 10 0	2 10 0	5%	0 5 0	5 0 Jan. 1861
1400	Eyan Mining Co. (lead), Derbyshire	5 0 0	5 0 0	5%	19 13 4	1 0 Dec. 1859
4940	Fowey Consols (copper), Tavistock	4 0 0	4 0 0	5%	41 9 0	2 6 June 1860
2560	Foxdale, Isle of Man, Limited	25 0 0	25 0 0	5%	61 8 0	1 0 Dec. 1860
6000	Frank Mills (lead), Devon	3 15 6	3 15 6	5%	0 5 0	2 6 Mar. 1861
486	Graham & Co. (copper), St. Austell	40 10 0	40 10 0	5%	23 0 0	1 0 July 1860
6000	Great South Toxus (S.E.), Redruth	40 10 0	40 10 0	5%	2 12 0	3 17 Feb. 1861
1798	Great Wheel Fortune, Breage	18 0 0	18 0 0	5%	0 10 0	10 0 Mar. 1860
1024	Herodfoot (lead), near Liskeard	8 10 0	8 10 0	5%	12 10 0	1 15 Feb. 1861
200	Herward United (lead), Flintshire	37 0 0	37 0 0	5%	3 0 0	1 10 July 1860
1000	Hibernian Mine Company	92 6 2	92 6 2	5%	6 15 0	0 15 Feb. 1861
160	Levant (copper), tin, St. Just	2 10 0	2 10 0	5%	1091 0 0	3 0 May 1860
400	Lisburne (lead), Cardiganshire, Wales	18 10 0	18 10 0	5%	365 10 0	3 0 Feb. 1861
9000	Marley Valley (copper), Cardigan	4 0 0	4 0 0	5%	0 16 0	5 0 Mar. 1861
4000	Mendips Hills (lead), Somerset	15 0 0	15 0 0	5%	2 1 0	2 6 May 1860
1800	Mineral Mining Co. (L.), Wrexham	2 0 0	2 0 0	5%	66 15 0	3 17 Feb. 1861
29000	Mineral Mining Co. (L.), Wrexham	7 0 0	7 0 0	5%	14 0 11	0 4 Jan. 1860
640	Mount Pleasant, Mold	4 0 0	4 0 0	5%	12 15 7	1 0 Mar. 1861
6000	North Great Work, Breage	1 3 0	1 3 0	5%	0 2 0	2 0 Jan. 1861
6000	Orsedd (lead), Flintshire	0 8 0	0 8 0	5%	0 9 0	0 9 Jan. 1861
640	Par Consols (cop.), St. Austell	1 2 6	1 2 6	5%	35 19 6	5 0 Mar. 1861
200	Parys Mines (copper), Anglesey	50 0 0	50 0 0	5%	5 0 0	5 0 Jan. 1860
200	Phonix (copper), tin, Llanfyllter	100 0 0	100 0 0	5%	394 10 0	5 0 Nov. 1860
1772	Pulvertoft (tin), St. Agnes	10 6 0	10 6 0	5%	6 14 6	0 10 Nov. 1860
1120	Providence (tin), Uny Lelant	10 6 0	10 6 0	5%	58 15 0	1 0 Feb. 1861
16	Rosewarne (copper), tin, Gwynedd	50 0 0	50 0 0	5%	1250 1 0	10 0 Oct. 1860
512	Rosewarne United (cop., tin), Gwynedd	1 5 0	1 5 0	5%	33 10 0	1 0 Sept. 1860
512	South Caradon (cop., tin), St. Cleer	1 5 0	1 5 0	5%	336 0 0	5 0 Jan. 1861
512	South Toxus (cop.), Redruth, Cornwall	8 0 0	8 0 0	5%	101 10 0	1 0 Jan. 1861
496	South Wheel Fortune, Breage	18 19 0	18 19 0	5%	353 6 0	1 10 Mar. 1861
280	Spearhead Moor (tin), St. Just	31 17 0	31 17 0	5%	8 15 0	1 10 Mar. 1861
940	St. Ives Consols (tin), St. Ives	8 0 0	8 0 0	5%	483 5 0	1 0 Feb. 1861
9600	Tamar Con. (sil.-id.), Beeralston	4 10 0	4 10 0	5%	5 6 0	2 6 Jan. 1861
6000	Tinroth (cop., tin), Redruth, Illogan	9 0 0	9 0 0	5%	10 8 0	5 0 Feb. 1861
6000	Tolvaclaw (copper), Redruth	3 10 0	3 10 0	5%	7 0 0	10 0 Sept. 1860
572	Trolyon Consols (tin), St. Austell	11 10 0	11 10 0	5%	46 4 0	4 0 Feb. 1861
200	Trumpet Consols (tin), near Helston	27 10 0	27 10 0	5%	80 5 0	2 10 April 1860
400	United Mines (copper), Gwynedd	40 0 0	40 0 0	5%	8 15 0	1 0 Jan. 1861
1024	Wendron Consols (tin), Wendron	11 13 0	11 13 0	5%	20 12 0	1 0 Jan. 1861
6000	West Basset (copper), Illogan	1 10 0	1 10 0	5%	11 10 0	2 0 Oct. 1860
60	West Burton Hill (lead), Yorkshire	50 0 0	50 0 0	5%	92 1 3	2 10 Nov. 1860
1024	West Caradon (cop.), Liskeard	8 0 0	8 0 0	5%	45 0 0	1 0 May 1860
256	West Damsel (copper), Gwynedd	37 0 0	37 0 0	5%	28 0 0	1 0 May 1860
6100	West Fowey Consols (tin and copper), Redruth	47 10 0	47 10 0	5%	298 0 0	10 0 Jan. 1861
600	W. H. Seton (cop.), Camborne	47 10 0	47 10 0	5%	626 10 0	3 0 Feb. 1861
512	Wheel Basset (copper), Illogan	8 2 6	8 2 6	5%	528 10 0	2 0 Jan. 1861
256	Wheel Buller (cop.), Redruth	5 0 0	5 0 0	5%	84 10 0	4 0 Feb. 1861
600	Wheel Clifford (cop.), Gwynedd	190 0 0	190 0 0	5%	0 10 0	10 0 Feb. 1861
2000	Wheel Falmouth and Sperris	2 5 0	2 5 0	5%	2400 10 0	5 0 Feb. 1861
128	Wheel Friendship (copper), Devon	50 0 0	50 0 0	5%	10 10 0	1 0 Feb. 1860
512	Wheel Jane (silver-lead), Kes	3 10 0	3 10 0	5%	0 16 0	2 0 July 1860
6000	Wheel Kitty (tin), St. Agnes	4 10 0	4 10 0	5%	8 0 0	0 10 Sept. 1860
1024	Wheel Liskeard (tin), Liskeard	1 2 6	1 2 6	5%	2 10 0	1 0 Feb. 1860
4900	Wheel Ludcott (lead), St. Austell	2 10 0	2 10 0	5%	66 10 0	1 10 Feb. 1861
200	Wheel Mary (tin), Lelant	36 2 4	36 2 4	5%	280 5 0	7 0 June 1860
1024	Wheel Mary Ann (tin), Menheniot	8 0 0	8 0 0	5%	53 7 6	0 10 Mar. 1861
80	Wheel Owles, St. Just, Cornwall	70 0 0	70 0 0	5%	270 13 0	7 10 Feb. 1861
1040	Wh. Trevelyan (sil.-id.), Liskeard	4 7 0	4 7 0	5%	43 15 0	1 0 Oct. 1860
6000	Wicklow (copper), Liskeard	7 10 0	7 10 0	5%	39 5 0	2 12 Feb. 1860

Dividends paid every two months. † Dividends paid every three months.

MINES WITH DIVIDENDS IN ABEYANCE.

700	Aberdovey (silver-lead), Merioneth	1 10 0	1 10 0	5%	0 10 0	10 0 Mar. 1859
5120	Alfred Consols (cop.), Phillack	2 11 0	2 11 0	5%	20 3 0	0 2 April 1859
1624	Baldewissen (tin), St. Just	11 5 0	11 5 0	5%	12 5 0	0 0 Jan. 1864
1200	Brightdale & Froggatt Grove, Derbyshire	3 0 0	3 0 0	5%	8 0 0	0 0 April 1858
200	Cefn Cwmy Brynno (lead), Cardiganshire	38 0 0	38 0 0	5%	5 0 0	2 0 Mar. 1858
2500	Central Miners (lead), L. E.	0 15 0	0 15 0	5%	0 4 0	0 0 Sept. 1859
6000	Charlotte United, Parnham	1 16 2	1 16 2	5%	0 13 0	1 6 Sept. 1859
2000	Colincombe (copper), Llanfyllter	20 0 0	20 0 0	5%	8 5 0	0 0 Dec. 1857
256	Condurow (cop., tin), Camborne	20 0 0	20 0 0	5%	2 10 0	2 0 June 1857
256	Copper Hill (copper), Redruth	48 0 0	48 0 0	5%	0 10 0	2 6 Feb. 1859
4976	Ding and Cornwall (copper)	4 16 3	4 16 3	5%	16 7 6	1 10 Mar. 1857
672	Dong (tin), Gwynedd	37 14 0	37 14 0	5%	0 13 0	2 0 Sept. 1857
12800	Drake Walls (tin), Calstock	2 1 0	2 1 0	5%	0 7 6	2 0 Jan. 1858
2048	East Falmouth (sil.-id.), Kenwyn, Kes	2 7 6	2 7 6	5%	305 0 0	2 10 Aug. 1858
128	East Pool (tin), Pool, Illogan	24 5 0	24 5 0	5%	0 5 0	0 0 Aug. 1854
1024	East Wheel Margaret (tin), Redruth	11 17 6	11 17 6	5%	4 0 0	2 6 Jan. 1860
6700	Exmouth (silver-lead), Christow	5 8 0	5 8 0	5%	1 0 0	0 0 Oct. 1859
6000	General Mining Co. (L.), (cop., sil.-id.)	2 10 0	2 10 0	5%	221 10 0	7 10 Feb. 1857
119	Great Work (tin), Gernoe	100 0 0	100 0 0	5%	2 16 0	0 2 Nov. 1856
6000	Hilgryn Down Con. (cop.), Cais, S.E.	4 15 6	4 15 6	5%	0 6 0	2 0 Feb. 1860
2000	Kelly Bray (lead, copper), Callington	4 1 6	4 1 6	5%	1420 0 0	0 0 June 1857
20	Lacey Mining Company, Isle of Man	100 0 0	100 0 0	5%	0 10 0	10 0 Dec. 1855
4000	Lewis Mines (tin, copper), St. Erth	6 11 0	6 11 0	5%	56 0 0	1 0 Sept. 1855
470	Newtownards Mining Co., Co. Down	50 0 0	50 0 0	5%	0 5 0	2 6 June 1859
6000	North Dolcoath (copper), Camborne	1 19 6	1 19 6	5%	187 0 0	4 0 Sept. 1853
700	North Rosecar (copper), Camborne	16 0 0	16 0 0	5%	2 10 0	0 0 Oct. 1859
1024	Rosewarne and Herland United	20 0 0	20 0 0	5%	2 10 0	0 2 June 1857
12800	Sordridge Con. (cop.), Whitchurch	0 14 0	0 14 0	5%	0 10 0	2 6 July 1857
128	South Crinins (copper), St. Austell	19 0 0	19 0 0	5%	60 0 0	0 0 June 1855
20000	St. Day United (tin and cop.), Redruth	2 5 0	2 5 0	5%	403 13 6	2 10 April 1851
120	Trevelyan (cop.), Gwynedd	15 10 0	15 10 0	5%	0 5 0	1 0 July 1858
20000	Val of Towry (lead), Carmarthen	0 13 6	0 13 6	5%	33 19 0	0 0 April 1857
1024	West Providence (tin), St. Erth	14 15 0	14 15 0	5%	1 6 0	0 0 Oct. 1855
6140	Wheel Arthur (copper), Calstock	3 7 0	3 7 0	5%	0 5 0	1 0 Feb. 1859
240	Wheel Bar (tin), St. Just	15 0 0	15 0 0	5%	0 5 0	0 0 Mar. 1858
4900	Wheel Basset (copper), Illogan	7 5 0	7 5 0	5%	1 12 0	7 0 Nov. 1858
1024	Wheel Grylls (tin), Gwynedd	5 1/2	5 1/2	5%	31 0 0	1 0 Sept. 1856
430	Wheel Lovell (tin), Wendron	33 0 0	33 0 0	5%	0 10 0	10 0 May 1860
1024	Wheel Margery (tin, copper)	15 3 0	15 3 0	5%	181 15 0	1 0 Dec. 1859
396	Wheel Seton (tin, copper), Camborne	58 10 0	58 10 0	5%	10 2 6	0 7 Jan. 1854
1022	Wheel Tremayne (tin, cop.), Gwynedd	12 6 0	12 6 0	5%	2 12 6	0 2 Dec. 1857
4096	Wheel Wrey Consols (lead), St. Ives	2 14 0	2 14 0	5%		

FOREIGN MINES.

2464	Burra Burra (cop.), South Australia	5 0 0	5 0 0	5%	215 0 0	5 0 Nov. 1860
12000	Cobre Copper Co. (cop.), Cuba	40 0 0	40 0 0	5%	96 12 0	2 0 Jan. 1861
10000	Copado Mining Company, Chile	16 0 0	16 0 0	5%	6 8 0	0 0 Jan. 1861
16000	East Indian Coal, Calcutta	10 0 0	10 0 0	5%	7 1/2 per cent.	Yearly
70000	English and Australian	5 0 0	5 0 0	5%	1 2 6	5 0 Feb. 1861
28000	Gen. Mining Assoc., Nova Scotia	30 0 0	30 0 0	5%	17 5 0	0 15 Jan. 1860
60000	Kapunda Mining Co., Australia	1 0 0	1 0 0	5%	0 8 0	2 0 Dec. 1860
15000	Llanes (id.), Pozo Ancho, Spain	2 0 0	2 0 0	5%	7 16 0	0 6 Sept. 1860
10000	Lustanina (of Portugal)	2 0 0	2 0 0	5%	0 17 0	2 6 Aug. 1860
10815	Mariquita and New Granada	1 0 0	1 0 0	5%	0 9 6	0 6 July 1859
100000	Port Phillip (gold), Clunes	1 0 0	1 0 0	5%	0 3 0	0 0 Jan. 1860
11000	St. John del Rey (L.), Brazil	15 0 0	15 0 0	5%	40 15 0	2 0 Dec. 1860
20000	West Canada Mining Company	1 0 0	1 0 0	5%	0 2 0	2 0 June 1860

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Alten and Quangenun (cop.), L. E.	4 10 0	4 10 0	5%	4 5 0	0 15 Nov. 1853
10000	Gt. Barrier Land, Min. & N. Ze.	3 10 0	3 10 0	5%	15 per cent.	May 1860
10000	Pontigband (sil.-lead), France	20 0 0	20 0 0	5%	1 5 0	1 0 June 1855
48174	Unit, Mexican (sil.), Mexico	28 5 0	28 5 0	5%	1 16 0	0 4 Feb. 1853

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
20000	Australian (copper), South Australia [S.E.]	7 7 6	1 1/4	5/8	Sept. 1858
75000	Bon Accord, South Australia (copper) [L.] [S.E.]	0 17 6	5/8	1/2	Dec. 1860
6000	Central American (silver) [L.]	5 0 0	8 1/2	7/8	Feb. 1859
17000	Central Italian (copper) [7000 £2 paid]	0 6 0	—	—	Jan. 1861
6000	Clarendon Consols (copper), Jamaica [S.E.]	0 17 6	5/8	—	Jan. 1861
10000	Copiapó Smelting [L], Chili	10 0 0	8 1/2	—	Fully paid
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	5/8	3/4	Fully paid
30000	East Kongsberg Native Silver Mining Co. of Norway [L.] [£5]	0 10 0	12s.	—	Feb. 1860
30000	Ellerslie and Barlowite, Jamaica	0 18 0	1 1/2	—	July, 1858
20000	English and Canadian Mining Company [L.]	5 0 0	—	—	Fully paid
25000	Fortuna (lead), Spain [L.] [S.]	2 0 0	2 1/2	2 3/4	Fully paid
80000	Great Northern (copper), South Australia [L.] [S.E.]	1 0 0	1 1/2	1 1/2	Fully paid
4000	Hope Silver-Lead and Copper Mining Co. [L.], Jamaica	25 0 0	—	—	Fully paid
50000	Imperial Thessalian (lead, &c.), Thessaly [L.] [£2]	0 10 0	3/4	—	June, 1861
30000	Lagunazo (sulphur, copper), Portugal [L.] [£1]	0 7 6	5/8	—	Mar. 1861
60000	New Granada (gold), South America [S.E.]	1 0 0	5/8	—	Fully paid
10000	New Grand Duchy of Baden (silver-lead), near Freiburg	1 0 0	1	—	Nov. 1858
60000	North Rhine Copper of South Australia [L.] [S.E.]	0 12 6	5/8	—	June, 1861
16000	Pachuca Silver Mining Company, Mexico [L.] [£1]	0 5 0	1 1/2	—	No call.
20000	Scottish Australian Mining Company [L.] [£1]	0 10 0	7/8	—	Nov. 1858
15000	South Europe Mining Company, Spain [L.] [£5]	3 0 0	—	—	May, 1861
25000	South European (copper, lead), Newfoundland [L.] [£1]	1 10 0	1 1/2	—	Mar. 1861
25000	Victor Emanuel, Val d'Ossola, Piedmont [L.]	1 0 0	1 1/2	—	Fully paid
1000	Western Africa Malachite (copper) [L.]	110 0 0	—	—	Oct. 1857
12000	Wheat Ellen, South Australia [L.] [S.E.]	2 10 0	2 1/2	—	Nov. 1861
36425	Whim Jamaica (copper)	1 0 0	15s.	—	Fully paid
80000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	10s.	17s. 18s.	Fully paid